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ABSTRACT

The facts and opinions regarding pass/no pass grading at Berkeley discussed in this report are based on three sources of information. These sources include a survey of faculty conducted in the spring quarter 1970, a survey of undergraduate students in the winter quarter 1971, and the records routinely generated in the Registrar's Office for the recording of scholastic grades combined with files held by the Office of Institutional Research. Five sections are arranged to cover faculty opinion, student opinion, facts, and a summary. These sections review the popularity of pass/no pass grading, student tensions and pressures, exploration of additional subject areas, quality, and faculty and student attitudes toward extension of pass/no pass grading and toward grading in general. Tables, charts and appendices of research material are included. (MJM)

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PASS-FAIL GRADING AT BERKELEY: FACTS AND OPINIONS

Sidney Suslow

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Office of Institutional Research
University of California, Berkeley
February, 1973

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SIDNEY SUSLOW

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Office of Institutional Research
University of California, Berkeley

February, 1973

PREFACE

The incentive for this study of pass-fail grading at Berkeley comes from the continuing concern of the Office of Institutional Research to assist the students and the faculty in their efforts to develop a grading system which is just. The periodic reports of grade distributions prepared by the Office of Institutional Research need to be supplemented on occasions with analyses of trends and with subjective evaluations. Although few among the faculty and students will be able to read this study dispassionately, no one should reject the explicit need for reassessment of the current grading systems at Berkeley.

ACKNOWLEDGMENTS

Although the author must take responsibility for the content, several staff members were involved in the preparation of this study, among whom special acknowledgment should go to Charlene Anne Hayes and Bonnie Sun. Others who contributed significantly to the material used in this study are Judith Ann Wheeler and James L. Bess.

The author's appreciation is extended to the faculty and students who contributed time and thought for this assessment of pass-fail grading at Berkeley.

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CONCLUSIONS AND RECOMMENDATIONS

The values which faculty and students place on different grading systems are as confused and arbitrary as the values used in the determination of grades themselves. While neither faculty nor students are prepared to do without any procedure for evaluating academic performance, the facts and opinions reported in this study show that Berkeley's current dual system which combines letter grades with limited optional pass/not pass grades is a tinker's remedy for a crumbling edifice. The five-value letter grade system which was created in an era when class distinctions were more readily accepted and the common or average man denotation carried positive connotations has been under severe attack in recent years. The introduction in the year 1966 of a limited option for students to elect to be graded either pass or not pass in a particular course was the university's first acknowledgment that knowing precisely how an instructor evaluated a student's performance was not always necessary nor important. However, the contention that this innovation would lead to significantly increased freedom for the student to explore difficult course material and would result in marked reduction in tensions created by the need to earn high marks is not supported by the facts, although large numbers of students and some faculty continue to think so.

This study shows that the students use the pass/not pass option in a selective manner on a scale significantly below it

potential use. Furthermore, the students acknowledge by their behavior, by their replies to survey questions included in this study, and by their written comments that as much as they would wish to do so, they cannot escape the letter grade system as long as entry to graduate school, fellowships and other awards are judged by persons oriented to letter grade values. Additionally, faculty and students recognize an implicit denigration of the pass grade, and this recognition has influenced many students to limit their use of the option. Despite these defects, the students adamantly protest any thought of eliminating the option unless the university can eliminate the letter grade system altogether and replace it with either written or oral evaluations or some other value system, as yet unidentified.

The pass/not pass option is used by some students with far greater frequency than by others. It is used by many students in order to carry an above average course unit load each quarter. It is partially responsible for the rise in the overall undergraduate scholastic average from a C+ to a B grade. It permits students to reduce their efforts in courses in which the option is used, and, according to both faculty and students, induces the student to do so. Its total impact on the standard letter grade system as measured by its numerical magnitude is about 12 grades in 100. It has not resulted in an obvious large scale course exploration by the students. It has not gained popularity among the faculty as a device for removing the reputation of perfunctory grading from broad survey lecture courses with large student enrollments.

The foregoing facts do not diminish the essential popularity of the pass/not pass option, but they do tarnish the image of an innovation designed to reduce grade-consciousness. Since the faculty definitely does not want, and the students only moderately want, any extensions of the current pass/not pass option, then, if

nothing better were available, I would recommend leaving the grading system as it is. I prefer, however, to recommend an alternative which I regard as a better system. This recommendation is based partially on facts and partially on conjectures of my own.

Beginning with a trend in the last decade, the C, or average performance, grade has ceased to be the modal grade awarded by the faculty to undergraduate students. Currently only 17% of all grades recorded in undergraduate courses are C grades. The decline of the C grade as an indicator of a satisfactory, but not an excelling performance, began long before the introduction of the pass/not pass option. When the option was introduced, however, both C and B grades declined as proportions of total grades awarded. With an increasing rise in A grades, a relatively steady state in the small percentage of barely passing and failing grades, the removal of a significant number of earned grades from the scholastic grade-point computation (i.e., pass/not pass grades are not counted in this computation), the C grade no longer is regarded as a satisfactory grade to the student.

The overall undergraduate cumulative grade-point average has risen in the last decade from 2.5 to 2.9. Ten years ago less than two out of ten undergraduates had scholastic averages of 3.0 and above; now more than four out of ten obtain these scores. Again, in the same time period the number of students with averages between 2.0 and 2.5 has reversed itself in almost exactly the same magnitude from about four out of ten to less than two out of ten. There are two important but mutually exclusive interpretations of this change. Either the undergraduate student of today is a superior scholar compared to his peers of ten years ago, or his satisfactory performance is now given a new name, namely a B grade.

Among the few points of agreement by the faculty and students who responded to the surveys discussed in this study is that

a majority of both groups were favorably disposed to initiating an entirely new grading system of honors pass/pass/not pass.

I recommend that the Berkeley faculty give serious consideration to eliminating the entire letter-graded system, the pass/not pass option and the grade-point calculation and replace them with a three-value system without numerical points. The facts noted in preceding remarks clearly show that the present system is in reality a three-value system, although in theory it is not.

I recommend that scholastic honors, awards, fellowships, admission to graduate school and other benefits which may flow from academic scholarship be judged on a more personal inspection of the student's entire academic record which may include written comments by faculty. A three-value system will clearly show in which disciplines a student is most scholastically apt, while a two-value system only separates the successful performer from the unsuccessful performer.

The facts show that the majority of the students all of the time, and all of the students the majority of the time recognize the need for some type of differential evaluation of scholastic performance. Pass/not pass grading is not used by the student as a means of relieving the fear of earning a failing grade, for very few such grades were given by the faculty. It is used by those students with above average scholastic scores who are fearful of earning a C grade. A three-value grading system would eliminate this fear while at the same time would allow for recognition of scholastic performance of an outstanding nature.

The proposal to use the words honors pass/pass/not pass for a three-value system is not recommended. In order to be acceptable

to the students, a three-value system cannot label as just adequate (as the word pass would connote) all who consider their performance to be noteworthy. The modal value of a three-value system at Berkeley, with its high admission standards, must denote more than an ordinary performance, it must indicate a successful performance in some positive manner. The elimination of the pass/not pass option wherein these grades are not included in a grade-point average calculation would mean that every course counted equally for all students and successful completion of each course would be recorded appropriately. I recommend, therefore, that the faculty search for more appropriate words to designate these three levels of performance. As an example, I suggest for possible use: outstanding, successful, not acceptable. I have selected these terms in order to avoid any connection with past grading terminology. The third term was chosen for its less harsh meaning than the term failure or similar terms.

If the faculty followed the current grading practices, then outstanding performers would be in the upper quartile, those whose performance was not acceptable would be in the lowest percentile, and successful performances would occupy the broad area between. I recommend a new approach. First, require that a successful performance achieve a higher level than that which currently receives a barely passing grade. While this would tend to increase the proportion of students with an occasional unsuccessful course record, the rules governing probation and dismissal could be rewritten to be less stringent with the student whose performance does not reach an acceptable level in a few isolated courses. Second, outstanding performers should be those students whose academic work places them among the top 10% to 15% of the class.

There are several benefits which could be derived from this recommendation. All students in a course would be considered on an

equal basis with regard to interpretations of the grades earned by them. Grading practices within and among departmental faculties could reach a more uniform level of validity and fairness to all students. Award committees and admission committees would be required to search for more meaningful and more individually personal criteria rather than the present heavy reliance on the grade-point average. While each course would be recorded for the student's proposed degree, the student would know that only a completely unsuccessful performance on his part would be detrimental to his record; that is, a student would no longer have to worry that through some arbitrary design he finds he is awarded a C grade and prevented from earning a B grade by an infinitesimal barrier. Outstanding performances by students would be quickly recognized. Under the current system a student who does A work for a P grade goes unrecognized, at the same time when all students are awarded A grades there are no distinctions.

No one can read the survey replies of the faculty and students, especially their appended comments, without being impressed by the intensity of their statements and without being disheartened by the polarity of their opinions. It is not my intention in making a recommendation for a completely new grading system to ignore this polarity, particularly those who hold strong favorable opinions that more discriminating grading is needed, not less. If the university's primary role were to promote the development of educated men and women I would recommend dispensing with grades altogether. Since the university's role appears to be one of dispensing certificates of completion of specific programs some indication of successful completion is required. An increasingly larger segment of society desires these certificates and they are unhappy with a system which not only may impede or block their attainment of their goals but which puts them under continuous duress while they pursue these goals. High positive relationships between grades and

performance in graduate school and professional career work in later years are not apparent. The present grading system at Berkeley is cumbersome, iniquitous, and unproductive. I recommend that it be abandoned.

INTRODUCTION

Few innovations in higher education are openly welcomed by most participants, for there are probably more proponents of change and more proponents for no change in education than in most other areas of society. The reason for this split lies in the continuing problem of adequately assessing just what education does for the individual. If proof that one form of teaching or one form of learning is better than another form is unobtainable, then there should be no wonder that some educators are constantly attempting innovations and others are equally constantly resisting these changes. When innovations are introduced, however, there are surprisingly few efforts to ascertain whether or not the changes brought about the anticipated improvements. Recent innovations in rank values used to classify scholastic performances of students have been initiated in many institutions of higher education in the United States. Most of these changes reflect a reduction of the number of values assigned to performance for course work. Specifically, the reductions replace a hierarchy of successful performances with a single order of success. Unlimited analogies can be made with which to compare the success/non-success dichotomy, but perhaps the simplest is the race in which the only criteria of success is whether one finishes the race at all. Many educators and students regard this single value of success as sufficient. Others are not satisfied until they learn how the race was run. Complications of

judgment arise in direct proportion to the complexities of the race and the methods used to evaluate successful completion. Little dispute is encountered in the determination of whether one runs, walks or crawls across the finish line if finishing is all one needs to do.

The enduring controvery over the system of assigning letter grade values to scholastic performance has flared again recently with the growing use of pass-fail (or pass/not pass) grading in higher education. The current controversy arouses, in some, strong sentiments, as can be attested not only by statements made by faculty and students to surveys made for this study (see Appendices I and J) but also by a recent leading editorial in a major metropolitan newspaper which deprecated pass-fail grading and which stated in part that "Success in the mature world of harsh reality normally requires an ability to compete with rivals."[1] The strength of these sentiments, one might conjecture, resides either in attitudes which disincline to judge the quality of performance, and prefer egalitarianism, or in attitudes which consider rank values absolutely essential for any enterprise, and prefer elitism.

This crude conjecture does a disservice to substantive comments made by students, educators and laymen who are genuinely concerned with the education process. There are cogent arguments for both sides and neither this study nor similar ones will resolve the conflict. This study attempts to determine whether the grading innovation introduced at Berkeley in the Fall Quarter 1966 has brought about the benefits anticipated by its proponents.

In March, 1965, the Academic Senate passed a resolution to establish "A Select Committee on Education at Berkeley" for the

[1] *San Francisco Examiner, August 7, 1971.*

following purposes:

> (a) to find the ways in which the traditions of humane learning and scientific inquiry can be best advanced under the challenging conditions of size and scale that confront our university community;
>
> (b) to examine the various changes in educational programs currently under consideration in the several schools and colleges; to seek by appropriate means to communicate information concerning these programs to the wider campus community; and to consider the implications of these programs in the light of (a) above.[2]

Chapter VI of the Select Committee's report is exclusively concerned with grading and opens with a forthright note about pass-fail grading.

> The establishment of the present Committee came at a moment when, throughout the United States, considerable debate and planning was being devoted to the problem of grading in higher education. Few would deny that, as more and more students compete for admission to our better undergraduate and graduate schools, they have become increasingly 'grade-conscious.' Students, faculty, and administrators alike have expressed concern about the pressure of grades; and some institutions have planned or implemented changes to free the student from the full impact of this pressure. Nearly all of these changes have moved in the direction of limited or experimental pass-fail grading in some form.[3]

A comprehensive review of the grading system was conducted for the Committee which lead to recommendations for experimental

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[2] *Education at Berkeley, Report of the Select Committee on Education, University of California, Berkeley, Academic Senate, March, 1966, p. iii*

[3] *Ibid., p. 93*

pass-fail grading. These recommendations also suggested comprehensive or qualifying examinations as another possible modification of the current system. Another report was submitted to the Select Committee which recommended adding "plus" grades to the current five letter grade system, i.e., A, A+, B, B+ and so on.

Since the Select Committee could be thought of as a direct outcome of the Free Speech Movement at Berkeley, it is not surprising that considerable effort was expended in assessing student opinion on the current grading system. An extensive random sample of 2,576 students at Berkeley was surveyed.

A direct quotation from the Committee's report would best represent some of the impetus felt by the Berkeley faculty for changing the grading system.

> These students were given four possible responses to the question--'How well do you think the grading system at Berkeley reflects the student's actual knowledge and understanding of the subjects studied?'. Only a bare majority seemed to believe in the efficiency of the system (3.4% answered 'Very well,' and 49.2% 'Fairly well'). No less than 41.8% answered 'Only slightly,' and this result cannot be attributed solely to resentful disappointment: 35% of the honors-level students in the sample answered in this way,[4] and 26% of those with grade-point average of 3.5 or better. A more or less constant 5% of students at all grade-point average levels answered 'Not at all.' Thirty-one out of 836 honors-level students (3.6%) believed that the system works 'Very well'; another 467 (55.8%) answered 'Fairly well.' Obviously one should not expect enthusiastic support for any form of grading. But when two fifths of an honors-level student sample express such significant disbelief in the system which rewarded them, it is

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[4] *I.e., those students whose grade-point average the previous semester was 3.0 or better.*

> surely time to reconsider not only the grading system itself, but the increasing emphasis which we are pressed to place upon it.

While there is no reason to think that a similar survey made today of Berkeley students would yield substantially different results, there is no doubt that during that period of time students saw few virtues in any of the university's systems.

About two out of five students, including honor-level students, had indicated they found grades a "major" worry. In open-ended questions many students noted their preference for additional pass-fail grading, especially outside the major or in the lower division and others asked for a more sophisticated range of grades. Of particular significance to this study are the Committee's remarks concerning student opinion as to which students were most likely to use a pass-fail option. The students challenged "the allegation that pass-fail grading is the preference of mediocre performers"...and the Committee indicated instead that... "the highest percentages favoring some form of pass-fail grading came from the honors-level students."[6]

The Select Committee's assessment of faculty opinion showed that most of them were more interested in explaining the need for letter-grading than discussing any innovations; however, many had suggested changes equivalent to those made by the students. The opinions of the faculty noted in the Select Committee's report are very interesting; however, this study's focus is on the pass-fail innovation and a digression on the whole topic of the value of letter-grading or lack of it would only lengthen the study without

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[5] *Education at Berkeley*, *op. cit.*, *pp 94-95.*

[6] *Ibid.*, *p. 95.*

necessarily enhancing its merits. But it is necessary to summarize the faculty's statements to the Committee so that the replies received in answer to the survey made for this current study can be placed in perspective. Essentially then, in 1965, the faculty said to the Select Committee that: (a) letter-grading had the salutary effect of forcing students to learn where they stood among their peers and to criticize themselves; (b) personal comments on students lacked rigor and rigor was needed to make faculty offer criticism and students believe it; (c) society is competitive and selective, and evaluations of students will be a concern of society; (d) the letter-grade system is overt whereas personal evaluations might be based on private grades which could not be questioned by the student; (e) the arguments that letter-grades are erratic and subjective are true, but any other conceivable grading system is no less subject to those errors, as for example, awarding different grades to the same work at different times.[7]

One particular point made by the Select Committee was that some faculty were interested in doing away with letter-grading in those broad survey lecture courses with very large enrollments inasmuch as the grading could only be perfunctory. Others, especially those in the physical sciences, showed interest in the use of finer gradations of grading. "There was little support for, and much opposition to, the idea of comprehensive examinations at this campus, especially from some professors who had administered them. It was argued that we should move instead in the direction of intimate, more personal confrontations between the student and his examiner."[8]

The Select Committee made five specific recommendations with

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[7] *Ibid.*,

[8] *Ibid., p. 97.*

regard to grading and two of them concerned pass-fail grades. In making their recommendations they noted the "complex and conflicting body of evidence" concerning grading and they stated "that the results of researchers to date are very far from definitive enough to justify immediate wholesale reforms of the present system."[9] Also, the Committee was concerned with the student's obsession with the grade-point average criterion for academic success and privilege.

The recommendations on pass-fail grading were...

> (#14) A student in good standing should be authorized to take one course each term on a Pass-Not Passed basis. Units thus earned shall be counted in satisfaction of degree requirements, but shall be disregarded in determining the student's grade-point average. Except with the consent of the student's major department, courses thus undertaken shall not satisfy requirements for the major...

and

> (#15) For the next five years, faculty members should be authorized, subject to departmental approval, to offer one course each term on a Pass-Not Passed basis. Faculty members taking part in this experiment would be expected to report their findings to the Committee on Educational Policy and the Board of Educational Development. It is understood that such courses would carry unit credit, but not grade points.[10]

The Select Committee anticipated these benefits: (a) reduction or elimination of perfunctory grades in large breadth courses, (b) encouragement to students to seek challenging courses outside

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[9] *Ibid.*, p. 98.

[10] *Ibid.*, pp. 99-100

the major; (c) promotion of interdisciplinary studies at the upper division level, (d) de-emphasis of present system, and "thus create an academic milieu with greater freedom, diversity, leisure, and personally-motivated inquiry;" (e) enlargement of the scope of the student's intellectual curiosity and reduction of his need to enroll in non-challenging courses.

INFORMATION SOURCES AND REPORT FORMAT

Three sources of information have been brought together to explore Berkeley's reaction to the pass/not pass innovation. One is a survey of faculty conducted in the Spring Quarter 1970, the second is a survey of undergraduate students in the Winter Quarter 1971, and the third source is the records routinely generated in the Registrar's Office for the recording of scholastic grades combined with files held by the Office of Institutional Research. Considerable overlap was built into the two survey instruments, but they were designed to explore attitudes and perceptions appropriate to faculty and students as separate groups.

The sections of this report which follow attempt to provide some light on these questions: (1) how popular is the pass/not pass grading option in its present form at Berkeley? (2) has the pass/not pass option reduced tensions and pressures commonly attributed to standard grading practices? (3) has the option served to encourage course exploration, create greater freedom for personal inquiry and enlarge the scope of the student's intellectual curiosity? (4) what quality differences are discernable in academic performances for pass/not pass grading compared to standard letter grading?, and, finally, (5) what are the current faculty and student attitudes toward grading, in general, and extensions of pass/not pass grading, in particular?

The discussions which follow cannot be properly understood without some knowledge of the regulations governing the use of the pass/not pass grading. A partial and condensed version of the regulations and their changes over time is given here to provide sufficient background for the reader and to avoid confusing repetition of the regulations when they are referred to in the text.

Pass/Not Pass Grading Regulations and Rulings--

Partial and Condensed Version

As of Fall, 1966

(a) Undergraduate students in good standing are eligible--i.e., cumulative scholastic average of C or better.
(b) One course per quarter permitted.
(c) Prerequisite and required courses for the student's major cannot be taken for a pass/not pass grade without faculty approval.
(d) Two "Not Pass" grades earned by the student make him or her permanently ineligible to use the pass/not pass option.
(e) Units earned for Pass grades count toward completion of degree, but not grade-point averages.
(f) The Pass grade includes letter grades, A-plus through D-minus.

As of Fall, 1968--changes only

(g) The Pass grade includes letter grades A-plus through C-minus.

As of Fall, 1970[11]--changes only

(h) Instead of one course per quarter, undergraduates could take up to one-third of their total units for their degree on a pass/not pass option.[12]

(i) Two Not Pass grades earned no longer made a student permanently ineligible to use the option.

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[11] *Certain extensions were made for graduate work but they are not pertinent to these notes.*

[12] *This change had the net effect of increasing the potential number of courses a student could take "pass/not pass," for the unit value of courses vary and under the old ruling a 3-unit course would count the same as a 5-unit course, i.e., <u>one</u> course.*

SECTION I

POPULARITY OF PASS/NOT PASS GRADING

The reputed popularity of a proposed innovation is one major force which moves it toward adoption. The Select Committee on Education at Berkeley found through survey that almost 50% of the students "volunteered the suggestion that more pass-fail grading be used."[13] The word "more" referred to the then present academic policy which went back to a policy set in 1941, and which limited the use of pass/not pass grading to honor students who were allowed to take one course per term and generally only from among upper division courses. Effective with the Fall Quarter 1966, an extended, but still limited, pass/not pass grading option was made available to undergraduate students (see pages 17-18).

Subsequent changes in regulations and rulings on pass/not pass grading may have obscured precise measurement of popularity over time, but one would think that the latest changes in Fall, 1970, would tend to cause an upswing inasmuch as they liberalized the option. Evidence given later in this section shows this speculation to be untrue insofar as the total undergraduate population

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[13] *Education at Berkeley*, *op. cit.*, p. 75.

is concerned, but true for students who have a propensity for using the pass/not pass option in any case. The influence of various policy changes over the years may have been readily measurable, but no specific attempt was made to do so, and speculations of their influence on the popularity of the pass/not pass grading option other than the one already made would not add to this study.

FACULTY OPINION

As noted previously, (see pages 12-13) the Select Committee on Education reported in 1966 that the majority of the faculty favored retaining the standard letter grading system intact; that is, the pass/not pass option was unpopular with them. The survey of faculty conducted in 1970 reveals a change in attitude, for the majority of the respondents (80%) stated they were either moderately in favor (52%) or strongly in favor (28%) of the current pass/not pass system with regard to its structure and intended purpose. The faculty had a less favorable opinion of the manner in which the system operated: 63% moderately in favor and only 14% strongly in favor. The latter question is ambiguous, but it should be interpreted to mean that while most of the faculty favors the current system, they are more positive about the purposes of pass/not pass grading than they are about the conditions under which it is practiced. Although it anticipates the last section of this report in which faculty attitudes toward extending the pass/not pass option are explored on several points, an appropriate notation here is that the majority of faculty respondents did not favor any major extension of the option.

Faculty perceptions of the popularity of pass/not pass grading can be assessed indirectly through two questions asked of thoses faculty respondents who had experienced this option in their courses. In response to the statement on the questionnaire "The

number of students taking advantage of the pass/not pass option in my courses is increasing," a majority, 61%, of the faculty said it was not true, the remainder, 39%, said it was only partially true, and none said it was entirely true. When they responded to the statement that "Among students utilizing the pass/not pass option in my courses, the proportion of A and B students has been increasing since the program began," a larger proportion, 69%, stated it was not true, 31% said it was partially true, and none said it was entirely true. The limitations of the pass/not pass grading regulations preclude leaps in popularity of the option; nevertheless, the fact that not a single faculty member noted increases in the number of students who choose this option in all of his courses cannot be overlooked as a demonstrable indication that pass/not pass grading popularity had not changed much in a positive direction. Direct measurements of student enrollments for the pass/not pass option are presented later in this section.

STUDENT OPINION

Several questions included in the survey of student attitudes and perceptions can be taken as measures of popularity. Among the undergraduate students who responded to the survey (number, 1,205), 81% stated they had taken at least one course for a pass/not pass grade at some time during their attendance at Berkeley. For some students this may include the entire time from the Fall Quarter 1966 through the Fall Quarter 1970, and for others only the 1970 term. The majority would have had less than two years to evaluate their propensity for pass/not pass grading.

A majority, 66%, of the students stated they had taken two or more courses for pass/not pass grades (see Table 1). Students can enroll in two types of courses with regard to pass/not pass grading. One type is a course offered to all qualified students on

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Table 1

PASS/NOT PASS COURSES TAKEN PER STUDENT

Per Cent Distribution of a Sample of Undergraduate Students at Berkeley (N = 1,205) by the Total Number of Courses Taken for Pass/Not Pass Grades During their Attendance at Berkeley

Total Number of Pass/Not Pass Courses Taken	Per Cent† of Sample
0	19
1	15
2	13
3	13
4	11
5 or more	29
No Reply	1
Total Number of Students . . . 1,205	

†Does not add to 100% due to rounding.

a wholly pass/not pass basis, i.e., all students enrolled are graded in this manner; however, these courses have never been numerous. The second type, potentially, includes almost all other courses which are graded by the standard range of letter grades unless the individual student elects to be graded by the pass/not pass option.

A crude estimate of the average number of years spent on campus for a cross-section of undergraduates taken in a fall term at Berkeley has been calculated at about two years. This includes new students, transfer students from community colleges and other institutions and students who entered as freshmen and persisted. Since most undergraduates (about 95%) are eligible to enroll for pass/not pass grades, the average number of pass/not pass courses per student could have been over 6, one for each of 5 quarters and more than one for Fall 1970, but the measured average was only 3.3 courses.

Undergraduate student respondents stated that the popularity of pass/not pass grading is not affected by the mechanics of the system; that is, they attached very little importance to reasons which concerned their possible lack of knowledge about how to sign up for pass/not pass grading or their understanding of the option itself. On a scale from 1 to 7, from less important to more important, the weighted scores were 1.3 and 1.4, respectively for the two reasons noted, which places these reasons for not electing to enroll for pass/not pass grades at the very bottom of the students' perceptions of what affected their behaviours. In fact, about 85% of the students rank these reasons with a score of 1, least important (see Table 2, Part B).

An important reason for electing the pass/not pass option was that the students enjoyed the course more than they would have under the standard grading system. It had a weighted score of 5.0 with 46% of the respondents giving it high values of importance, 6 or 7.

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Table 2

POPULARITY

Per Cent and Weighted Scores of Responses by a Sample of Undergraduate Students Regarding their Attitudes and Perceptions of the General Values they Associate with Pass/Not Pass Grading in Courses Taught at Berkeley

Survey Item	Number of Responses (Maximum 1,205)	SCALE							WEIGHTED SCORE
		Less Important			Neutral	More Important			
		1	2	3	4	5	6	7	
		PER CENT†							
(A) How Important are the Following Reasons for Electing Pass/Not Pass Grading:									
Enjoy course more	935	7	6	6	14	20	22	24	5.0
Fulfill breadth requirements	932	30	11	7	9	13	15	13	3.6
Take required courses in major that are not interesting	921	47	15	7	11	6	7	6	2.6
(B) How Important are the Following Reasons for NOT Electing Pass/Not Pass Grading:									
Do not understand the grading option	1,186	85	6	2	3	1	1	1	1.4
Unsure of how to sign up for pass/not pass grading	1,186	86	6	2	2	2	1	1	1.3
		SCALE							
		Less Than Letter Graded Courses			Same††	More Than Letter Graded Courses			
		1	2	3	4	5	6	7	
		PER CENT†							
(C) Compared to Graded Courses, What was your Actual Experience in Pass/Not Pass Courses:									
Enjoyment of school	922	2	2	1	20	25	30	20	5.3
Enjoyment of the course	922	3	3	4	20	21	26	22	5.2
Independence of action	917	2	1	3	31	26	24	13	5.0
Reduction of superficial interests	899	3	2	4	46	17	17	11	4.7
Clarity of personal values and their importance	901	3	3	4	52	18	12	8	4.5
Personal relations with other students	918	4	3	7	55	15	11	5	4.3
Personal relations with teachers	917	4	5	8	58	9	9	5	4.1

†May not add to 100% due to rounding.

††Students were instructed in these questions to rate a letter-graded course as, 4, no difference between types of grading.

If pass/not pass grades are popular because they help students enjoy their courses more, they are not popular to students simply as a means to fulfill breadth requirements or to take required major courses that are not interesting to them.[14] The latter reason for electing pass/not pass grading was ranked at the bottom of the list of potential reasons with a weighted score of 2.6 and with 63% of the respondents giving it the low score of 1 or 2. The former reason, to fulfill breadth requirements, had a more varied response from the students, i.e., they were more divided on its importance to them. The weighted score was 3.6 but the per cent distribution showed 41% giving low scores of 1 or 2 and 28% giving high scores of 6 or 7. This type of split, large numbers at either end of the 1 to 7 scale, or, in some instances, almost a uniform spread across all values occurs in many of the student responses reported in this study, and it shows that no single statement can be made with regard to student needs or perceptions about the value or popularity of the pass/not pass option except the felicitous reason that they all enjoy the course more.

This aspect of enjoyment is further reinforced by responses from the students to questions regarding their experiences in courses taken for pass/not pass grades compared to courses taken for standard letter grades. Among the seven responses selected for discussion in this section of the report, enjoyment of school and of the course itself were rated highest by the student, that is, the students perceived their election of the pass/not pass grading option as promoting greater enjoyment for themselves in these courses, and in their being in school, than in courses taken for a standard letter grade. Students, also, thought that pass/not pass

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[14] *Breadth courses refer to courses outside of the student's area of study for his major; e.g., an art course for a mathematics student major.*

grading gave one a feeling of greater independence of action compared to standard grading.

As one moves from very general areas of satisfaction to more specific values, one notes that students found less benefit from pass/not pass grading compared to standard grading. The undergraduates did think that, to some extent, taking a pass/not pass grade reduced the need to be concerned about superficial course material, but they showed little positive attitude to the possibility that pass/not pass grading could improve their personal values or the interpersonal relations with either students or professors. In fact, among the roughly 900 students (about three-fourths of the sample) who responded to the latter type of specific questions, half or more had checked, on a scale of 1 to 7, number 4, which was intended, by instruction, to represent no difference between a pass/not pass graded course and a standard letter-graded course (see Table 2, Part C).

FACTS

In perception and attitude, undergraduate students favor the pass/not pass grading option; but an examination of some empirical information obtained from official records of scholastic grades awarded by the departments of instruction should add perspective to student opinion by observing their behavior.

A gross observation of student enrollments in courses of instruction at Berkeley since the innovation was introduced, in 1966, shows a significant increase in use of pass/not pass grading the second year followed by a declining trend in lower division courses and a relatively steady trend in upper division courses (see Table 3). In general, about 10% of all grades are earned as pass/not pass grades and this represents, based on crude relationships between the average number of courses taken by undergraduates and the potential

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Table 3

PER CENT OF PASS/NOT PASS GRADES

Pass and Not Pass Grades Awarded by Berkeley Departments of Instruction as a Per Cent of All Grades Awarded -- Fall Quarters 1966 through 1971†

Fall Quarter	Lower Division Courses		Upper Division Courses	
	Pass Grades	Not Pass Grades	Pass Grades	Not Pass Grades
	P E R C E N T			
1966	9.5	0.4	7.2	0.3
1967	14.1	1.0	9.1	0.7
1968	11.8	1.2	9.3	0.7
1969	11.4	1.1	8.3	0.6
1970	10.9	1.0	9.3††	0.7
1971	9.6	1.1	10.4††	0.6

†Excludes pass/not pass grades in physical education activity courses which are very numerous and in which most students elect the pass/not pass option. These activity courses do not affect the student's eligibility for electing pass/not pass grading in other courses. It does not exclude independent study course enrollments which, also, do not affect the student's eligibility. Material developed later in this section excludes both physical education activity courses and independent study courses.

††Graduate students, who account for roughly 13% of upper division course enrollments, became eligible for using the pass/not pass option in the Fall Quarter 1970. They have been subtracted, by estimate, from the total official count of pass grades to give comparable information for the undergraduate students.

eligibility they have for the option, about a 40% usage of the maximum possible.

Perhaps the easiest explanation of the actual compared to the potential use of the option is that the students find it a helpful tool for getting on in their academic work bu they recognize its limitations not only from the viewpoint of their own personal needs with respect to future graduate work or employment but, also, from the viewpoint that the system is a partial one surrounded by a universe of standard grades and judges who think in standard grade terminology.

Additional information available for four of the six years since the introduction of pass/not pass grading shows that from 36% to 42% of the undergraduate students who are eligible make use of the option. These percentage figures are obtained by counting all the students who enrolled for one or more courses on a pass/not pass basis in a given term and dividing by all eligible students in the same term (see Table 4). Put into other terms, this means that about six out of every ten undergraduates, for one reason or another, do not elect any course for pass/not pass grading each term they are eligible to do so. In Section IV of this study some figures will reveal that many students with below average scholastic standing use the pass/not pass option. Whether or not these students were eligible to enroll for the option at the time they did enroll cannot be determined by the information available for this study. This fact is noted here simply to point out that the per cent estimates given in Table 4 would change by 1%, or less, if these students were taken from the counts in the table.

Since there are no criteria extant for judging the popularity of pass/not pass grading at one institution compared to another, one kind of assessment can be made by examining some of the details

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Table 4

UNDERGRADUATES ENROLLED FOR PASS/NOT PASS GRADES

Number and Per Cent of Undergraduate Students Who Enrolled for One or More Pass/Not Pass Grades in Courses Offered at Berkeley in the Fall Quarters of 1966, 1968, 1970 and 197.†

Fall Quarter	Total Number of Undergraduate Students	Estimate of Eligible Number of Students	Number Enrolled for Pass/Not Pass Grades	Estimated Per Cent of Eligible Students Enrolled in Pass/Not Pass Grades
1966	16,862	15,465	5,590	36
1968	17,539	16,662	7,010	42
1970	17,995	17,095	6,390	37
1971/2	15,828	15,037	5,496	36

†One course permitted in 1966 and 1968 and more than one permitted in 1970 and 1971.

about those students who use the option to discover if there are differences in pass/not pass grading preference among various groups within the undergraduate population at Berkeley. The most consistent important difference is found when undergraduates are grouped by their matriculation status at the opening of the fall quarter of instruction. Students who are new to the Berkeley campus are much less inclined (26% compared to average of 37%) to elect a course for a pass/not pass grade than are students who either are returning to Berkeley after an absence of one or more terms or are continuing their attendance from the previous regular term (see Table 5).

Before proceeding further, the reader should know one important technicality concerning the basic data used in all the empirical comparisons which follow in this section and appear in later sections. This technicality refers to the types of course enrollments which were excluded from the various analyses of actual use of the pass/not pass option. First, all graduate student enrollments were excluded; second, all enrollments in physical education activity courses, such as tennis or swimming, were excluded, inasmuch as an enrollment in these courses did not affect the student's eligibility to take a 'regular' course on a pass/not pass basis; and, third, all independent study course enrollments were excluded since undergraduates have to take these courses on a pass/not pass basis and doing so does not affect their eligibility to enroll in 'regular' courses.

As one can see in Table 5, the per cent of new students who enroll for the pass/not pass option is consistently below that for continuing or returning students for the three fall terms shown and the per cent of returning students is consistently below the per cent for continuing students. The smaller proportions of new and returning students who use the option may be due, in small part, to the very slightly lighter course load these students carry compared

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Table 5

SELECTED CHARACTERISTICS

Per Cent of All Undergraduate Students Enrolled in One or More Courses for a Pass/Not Pass Grade at Berkeley in the Fall Quarters of 1968, 1970 and 1971†

Selected Characteristics	PER CENT			
	Fall 1968	Fall 1970	Fall 1971	Three Term Average
Matriculation Status:				
New	26	26	25	26
Returning	34	35	30	33
Continuing	45	39	39	41
Class Standing:				
Freshman	26	29	26	27
Sophomore	47	40	38	42
Junior	43	36	36	38
Senior	42	37	38	39
Men and Women:				
Men	35	34	32	34
Women	46	38	38	41
TOTAL, Undergraduates	40%	35%	35%	37%
Number of Students	17,539	17,995	15,828	17,121

†See Appendix A for details.

to continuing students, 3.22 and 3.19 courses per quarter compared to 3.36 courses, respectively (see Table 6). The effect here would be to reduce the opportunities for many of the new and returning students to use the option. More importantly, however, evidence noted later in Section V of this report indicates that according to some students, when they first entered the university, they were fearful of the unstructured nature of the pass/not pass grading program and the possible effect the use of the option might have on their scholastic record. This uncertainty does not last long for, as one can see in Table 5, sophomores have used pass/not pass grading at a higher rate than students at other class levels. In general, however, class level has little effect on student behavior with regard to use of the option, since the large per cent difference shown in Table 5 only reflects the fact that most students classified as freshmen in the fall term are new to the campus and, thus as with new students, freshmen take about 10% fewer courses for a pass/not pass grade, 27% compared to 37% overall, respectively.

The average higher use of the option by sophomores previously noted is matched also, by a marginally higher average course load. This relationship appears to be negated when an examination of Tables 5 and 6 are made for data concerning men and women. Although 41% of the women (three-term average) use the pass/not pass option compared to 34% of the men, the former group consistently carry a smaller course load per term, average 3.27 compared to 3.35 for the men. The existence of a relationship between the amount of course work a student carries and his or her propensity to use the pass/not pass grading option is clearly and directly exhibited later under an examination of the quality of the student's performance in Section IV. The empirical information given there cannot be used to determine whether the popularity of the pass/not pass option with some students influences them to carry more course work or whether students who find it necessary or desirable to carry a higher than

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Table 6

AVERAGE COURSE LOAD

Average Number of Courses Taken Per Quarter Term by All Undergraduate Students at Berkeley in the Fall Quarters of 1968, 1970 and 1971

Selected Characteristics	AVERAGE COURSE LOAD			
	Fall 1968	Fall 1970	Fall 1971	Three Term Average
Matriculation Status:				
New	3.23	3.20	3.24	3.22
Returning	3.14	3.20	3.24	3.19
Continuing	3.34	3.34	3.41	3.36
Class Standing				
Freshman	3.22	3.20	3.24	3.22
Sophomore	3.34	3.36	3.40	3.37
Junior	3.33	3.35	3.37	3.35
Senior	3.33	3.29	3.39	3.34
Men and Women:				
Men	3.35	3.32	3.39	3.35
Women	3.25	3.26	3.30	3.27
TOTAL, Undergraduates	3.31	3.30	3.35	3.32
Number of Students	17,539	17,995	15,828	17,121

average course load are delighted to use the pass/not pass option whenever they can, in order to make their burden less onerous.

While the evidence from Tables 4 and 5 shows that the proportion of undergraduate students who use pass/not pass grading has not grown over the years, other evidence shows that with the change in rules in 1970 (see page 18), students who do make use of the option used it more per quarter; that is, once students were allowed to take more than one course per quarter on a pass/not pass basis, the average number of such courses has grown (see Chart A). This division among the undergraduates concerning their preference for using or not using the option appears throughout this report. There is considerable evidence that, for a variety of reasons, some students are very pleased to have use of the option and others either dislike it or feel they cannot use it without harming their future academic plans.

One measure of interest which has been estimated, but has not been examined directly, so far, is the proportion of total course enrollments which are graded on pass/not pass basis. Although this ratio could be determined from the information already given, a direct measurement is available and will help place in perspective the actual magnitude of the impact of pass/not pass grading on the scholastic system used at Berkeley. In Table 7, the total course enrollments generated by undergraduate students are shown together with the per cent of those enrollments which are graded pass/not pass. Out of every 100 grades given by the faculty, 12 are pass/not pass grades. The range, in the Fall Quarter 1971, by class standing, is from about 9 out of every 100 grades for freshmen to 14 out of every 100 grades for seniors.

Not shown in Table 7, but given in Appendix B, is further proof that the newness of the student, and not his class standing,

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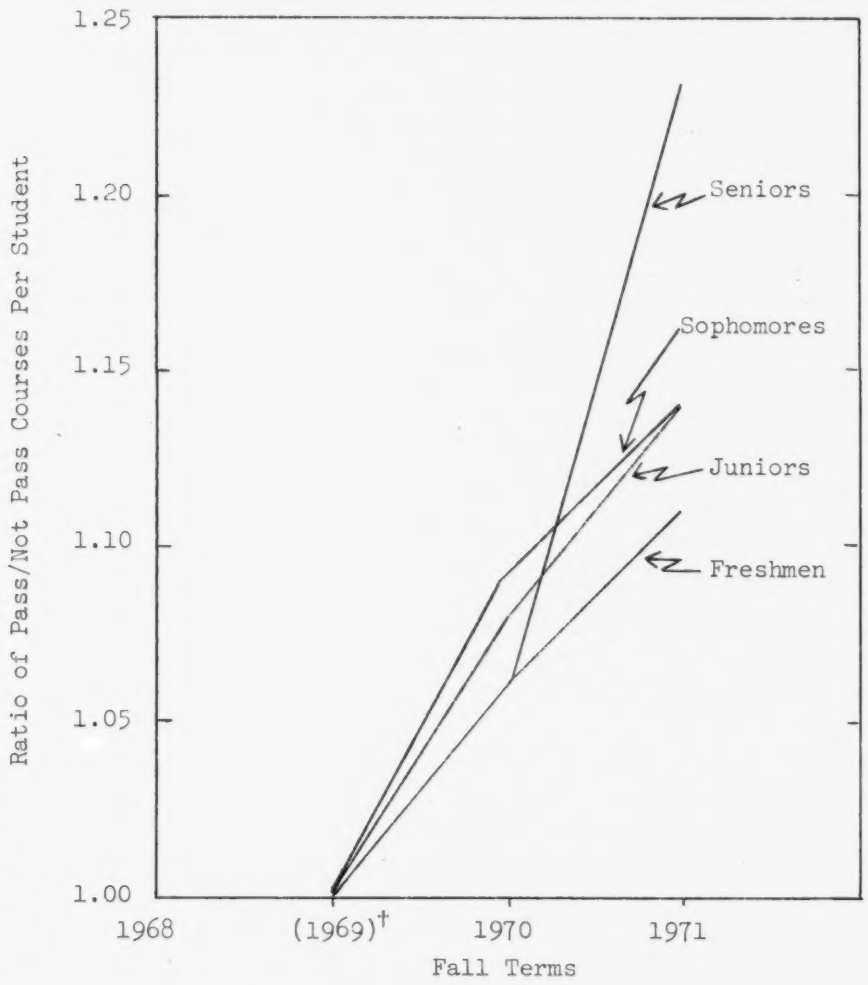
CHART A

Shows Increased Number of Courses Taken for a Pass/Not Pass Grade Per Quarter Following the Change in Rules to Allow for More than One (1.00) Course Per Quarter in the Fall Quarter 1970 at Berkeley



†No data, but would have been 1.00 by regulation.

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Table 7

CLASS STANDING

Per Cent of Course Enrollments Which are Graded Pass/Not Pass by Class Standing for All Undergraduates at Berkeley in the Fall Quarters of 1968, 1970 and 1971.

Class Standing	PER CENT† COURSE ENROLLMENTS Pass/Not Pass		
	Fall 1968	Fall 1970	Fall 1971
Freshman	8	10	9
Sophomore	14	13	13
Junior	13	12	12
Senior	13	12	14
TOTAL	12	11	12
Number of Course Enrollments	58,016	59,314	53,062

Ratio of per cent of course enrollments which were pass/not pass taken by new students compared to continuing students.††	Fall 1968	Fall 1970	Fall 1971
Freshman	.5	.7	.7
Sophomore	.8	.8	.8
Junior	.7	.7	.7
Senior	.5	.6	.6

†See Appendix A for details.

††See Appendix B for details.

has a marked effect on reducing his propensity to enroll for a pass/not pass grade. The ratios of the per cent figures given in Appendix B of pass/not pass enrollments by new students compared to those for continuing students are subtended to Table 7. They show that the rate of use of the option by new students is half to four-fifths that of continuing students, with new seniors having the least use and new sophomores the most.

Two final examinations of the popularity of the option are given to provide information about differences among varicus subject fields of study at Berkeley. As has been shown already, the per cent of undergraduate students who elect to use the pass/not pass grading system has declined from 42% to 36%, from 1968 to 1971. Among the undergraduate majors in the several schools and colleges of the university, there have been some changes in pass/not pass use upward, notably among students in the Schools of Optometry and Forestry. In general, of course, the trends are downward over the three terms considered here. Table 8 gives the per cent figures for each fall term and a three-term average. The column of averages shows the higher use of the option by students in the College of Letters and Science, 38% compared to a campus average of 32%, excluding Letters and Science. If the latest fall quarter (1971) is considered, then Optometry students are the high users (46%), followed by Letters and Science (36%). The low users are students who major in chemistry, environmental design, criminology and forestry, all between 26% and 20%.

In Table 9, a different treatment of the data shows the per cent figures for the number of pass/not pass course enrollments in the departments of instruction of the schools and colleges. In this table the professional schools have been combined. The picture here is distinctly different from Table 8. There are several interesting facts: (a) in the lower and upper division course enrollments

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Table 8

STUDENTS BY COLLEGES AND SCHOOLS

Per Cent of Undergraduate Students by Major Area Who were Enrolled in One or More Courses for a Pass/Not Pass Grade at Berkeley During the Fall Quarters 1968, 1970 and 1971

Major Area of Student	PER CENT†			
	Fall Quarters			Three Term Average
	1968	1970	1971	
COLLEGES--Freshmen through Seniors				
Agricultural Sciences	26	31	31	30
Chemistry	29	28	24	27
Engineering	37	37	31	35
Environmental Design	33	28	24	28
Letters & Science (see below also)	42	36	36	38
Ethnic Studies	-	100††	36	-
SCHOOLS--Juniors and Seniors				
Business Administration	36	36	32	35
Criminology	29	38	26	31
Forestry	7	12	20	13
Optometry	20	31	46	32
College of Letters & Science: Details				
Juniors and Seniors				
Biological Sciences	34	30	33	32
Humanities	47	36	40	41
Physical Sciences	46	40	38	41
Social Sciences	47	39	40	42
Freshmen and Sophomores	38	35	33	35
TOTAL, Undergraduates	40	35	35	37

†See Appendix C for details.

††One student.

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Table 9

COURSE ENROLLMENTS BY LEVEL

Per Cent of Course Enrollments Which are Pass/Not Pass by Department at Berkeley During the Fall Quarters 1968, 1970 and 1971†

Departments of Instruction	PER CENT			
	LOWER DIVISION			
	Fall 1968	Fall 1970	Fall 1971	Three-Term Average
Agricultural Sciences	40	13	39	30
Chemistry	3	2	2	2
Engineering	2	3	2	2
Environmental Design	6	4	1	4
Ethnic Studies	-	28	26	27
Professional Schools	11	10	11	11
Letters & Science	(14)	(14)	(13)	(14)
Biological Sciences	22	21	16	20
Humanities	9	14	16	13
Physical Sciences	16	9	8	11
Social Sciences	23	16	13	18
Other	41	12	9	21
TOTAL	14	13	11	13
	UPPER DIVISION			
	Fall 1968	Fall 1970	Fall 1971	Three-Term Average
Agricultural Sciences	1	6	7	5
Chemistry	††	1	2	1
Engineering	4	4	3	3
Environmental Design	4	6	6	5
Ethnic Studies	-	9	9	9
Professional Schools	8	19	23	17
Letters & Science	(12)	(11)	(12)	(12)
Biological Sciences	3	6	6	5
Humanities	12	12	17	13
Physical Sciences	4	7	6	6
Social Sciences	14	11	12	12
Other	38	10	12	20
TOTAL	11	11	12	11

†See Appendix D for details.

††Less than .6.

almost the same per cent of pass/not pass grades have been given over the years, 13% to 11%, respectively, but the top of the range of the figures is much higher at the lower division level, from 2% to 30% for lower division compared to 1% to 20% for upper division; (b) while engineering students use the option as frequently as most students, as shown in Table 8, they obviously do not use it much in engineering courses, and neither does anyone else; (c) the same can be said for chemistry courses except that chemistry students are below average in using the option; (d) in lower division courses, use of the option had declined considerably in the sciences, but increased in the humanities; (e) use of the option at the upper division level has been more stable than at the lower division for the three years considered, with the exception of a very significant increase among upper division courses in the professional schools, from 8% in 1968, to 23% in 1971.

SUMMARY

Prior to the initiation of a partial pass/not pass grading system at Berkeley in 1966, the Select Committee on Education found the proposed innovation to be unpopular with the faculty but popular with the students. Since 1966, the faculty has modified their position in favor of the probable value of a partial pass/not pass system, but they are not particularly pleased with the manner in which the system operates. The undergraduate students continue to regard the pass/not pass option with favor. Their greatest satisfaction with the option is that it allows them to enjoy their course work more than in regular letter-graded courses and that the heightened pleasure is transferred, in part, to their entire university experience. The majority of the students stated that they were not attracted to use the option in fulfilling breadth requirements or in taking required courses that were not interesting to them.

Factual, rather than attitudinal, measurements of the popularity of the usage of the pass/not pass option among all undergraduates reveal a limited, but more or less sustained, interest. The proportion of eligible individual undergraduates who use the option rose from 36% to over 40% and then declined to 36% again. The option is used more by continuing and returning students than those who are new to the campus, by women more than men, and by students in the College of Letters and Science more than by students in other colleges or in the professional schools.

The empirical data show that the total impact of the innovation on the regular grading system has a magnitude of about 12 pass/not pass grades among 100 grades awarded by the faculty each term. This small ratio results from (a) the natural limits imposed by the rules and regulations governing pass/not pass grading, (b) the fact that only slightly more than one out of three eligible students use the option each term and (c) the fact that the main use of the option lies with certain types of students who have a much higher propensity for its use than other students. But, while the students who enjoy using the option have not increased their numbers, they have increased their use of the option per term since the change in regulations in 1970, which allowed a student to enroll in more than one course per quarter. No matter what standard one uses 12% of any system is important. The question is whether the pass/not pass option is too small to be considered a real innovation in grading, or whether, despite its limited influence, too important to be disregarded.

SECTION II

STUDENT TENSIONS AND PRESSURES

The role of the student from primary grades through graduate work at colleges and universities has many constancies of which one is the periodic requirement to exhibit through reports or examinations the quality of his knowledge gained through the educational experience. Putting aside, for this study, discussions of whether such tests are valid indicators of learning experiences, few persons would argue that most students have felt tensions and pressures associated with academic performance. These are vague terms, perhaps, but their use is common and their meaning is clear.

FACULTY OPINION

The faculty respondents (244) to the survey of Spring 1970, thought that the pass/not pass grading option was moderately effective in reducing strong competition among students. Almost half (45%) of the faculty gave this opinion with the remainder about equally divided between those who thought the option was very effective in reducing strong competition (29%) and those who thought it was moderately ineffective (20%) or entirely ineffective (5%).

The faculty responded quite differently to another survey statement question: "The fear of a poor grade has been suggested

as one reason why students may cheat on course examinations. How effective do you think the pass/not pass system has been in reducing grade pressure, and thereby reducing any cheating among students enrolled in a course for a pass/not pass grade?" Out of the 244 faculty respondents, 189 gave their views of the effect that pass/not pass grading has on examination cheating, and this number was about equally divided between those who thought the option effective in reducing cheating and those who did not.

There was far less disagreement that pass/not pass grading allowed a student to carry a full course load while reducing the amount of workload pressure from courses. Over 80% of the faculty respondents agreed that in this instance the option was either moderately effective (52%) or very effective (29%). An almost identical response distribution was given by the faculty to the survey item which stated that "as pressure increases in a student's letter-graded courses, the student will disregard his work in pass/not pass courses."

One section of the faculty survey was directed to those faculty who stated that they knew specifically who the pass/not pass students were in their classrooms. On the problem of tensions in the classroom the survey asked these faculty, "How does the pass/not pass students' general tension level in class and on examinations compare with that of the letter-graded students?" Only about half of the faculty answered this question, and among the group who responded, 61% thought the students were as relaxed under one grading system as the other, and 37% said the students were more relaxed under the pass/not pass system.

STUDENT OPINION

The undergraduate students also perceived themselves to be more relaxed when taking a course for a pass/not pass grade than for a standard letter grade. On a scale from 1 to 7, from "less than letter-graded course" to "more than letter-graded course," the weighted response of the students was 2.3, a figure which represents a strong indication from the students that the majority thought that the tensions and pressures were far less with pass/not pass grading. An almost equal statement was made with regard to competition with other students, weighted score 2.4. The student respondents did not think that either the tension from course evaluation, the general level of personal anxiety, or the amount of cheating were as different in pass/not pass grading compared to standard grading as the two previously noted types of academic pressures, but, still, they did rank these latter three academic pressures as being less prominent in pass/not pass grading compared to standard grading (see Table 10).

In what appears to be an inconsistency, the undergraduate respondents gave essentially no importance to electing the pass/not pass option in order to reduce competition with other students. On a scale from 1 to 7, from less important to more important, the weighted response was 4.0, i.e., no difference. An essential point here is that the students did spread their responses fairly uniformly across all 7 points on the scale of importance, which must mean that there are significant proportions of the undergraduate students who are concerned with student competition and similar proportions who do not focus on this problem. If this assumption is correct, there may be no inconsistency in the fact that a large proportion of the same students said pass/not pass grading helped to reduce competition with other students. It may, however, reflect their perception of how other students react rather than reflecting any personal need of their own to avoid competition.

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Table 10

TENSIONS AND PRESSURES

Number and Weighted Scores of Responses by a Sample of Undergraduate Students Regarding their Attitudes and Perceptions of Tensions and Pressures Associated with Pass/Not Pass Grading in Courses Taught at Berkeley

Survey Item	Number of Responses (Maximum 1,205)	SCALE							WEIGHTED SCORE
		Less Important			Neutral	More Important			
		1	2	3	4	5	6	7	
		PERCENT							
(A) How Important are the Following Reasons for Electing Pass/Not Pass Grading:									
Reduce tension from course evaluation	931	6	5	4	11	20	28	25	5.2
Reduce pressure if course is difficult or time consuming	935	7	5	5	10	24	28	21	5.1
Reduce tension and classroom pressure	935	10	5	7	13	21	24	19	4.8
Reduce competition with other students	934	19	11	9	14	17	17	12	4.0
(B) How Important are the Following Reasons for NOT Electing Pass/Not Pass Grading:									
Need grades for motivation	1,190	36	19	11	14	11	6	2	2.7
Enjoy the competition of getting grades	1,188	45	20	11	12	7	3	2	2.3
		SCALE							
		Less Than Letter Graded Courses			Same†	More Than Letter Graded Courses			
		1	2	3	4	5	6	7	
		PERCENT							
(C) Compared to Graded Courses, What was your Actual Experience in Pass/Not Pass Courses:									
Amount of cheating	873	26	10	6	54	2	1	††	3.0
Level of personal anxiety in general	918	19	28	21	21	4	4	3	2.9
Tension from course evaluation	921	24	31	16	11	5	5	6	2.8
Competition with other students	917	30	30	19	17	2	1	1	2.4
Tension and classroom pressure	918	30	33	19	12	2	1	2	2.3

†Students were instructed on these items to assume that standard graded courses had a rating of 4.

††Less than 0.6%

The students were positive in their responses to three other reasons for electing pass/not pass grading: reduced tension from course evaluation, reduced pressure if the course is difficult or time consuming, and reduced tension and classroom pressure (weighted scores 5.2, 5.1 and 4.8, respectively). Since there were no completely one-sided responses from the students to any of the survey items which explored the reasons why they used the pass/not pass option, a weighted score of 5.2 represents a relatively high rating of the utility that pass/not pass grading has on reducing tension caused by instructor evaluation of each student's academic performance.

When asked how they rated the importance of needing standard grades for motivation or the importance of enjoyment derived from the competition of receiving above average grades, the student respondents to the survey gave low ratings to these reasons for not electing the pass/not pass option. The facts of this study show that most undergraduates use the pass/not pass option discriminately, but their response to the latter two reasons clearly indicates that self-imposed tension or pressure motivations are not responsible for their pursuit of standard letter grades.

SUMMARY

Both faculty and students perceive reduced tensions and pressures among students who are enrolled in a course for a pass/not pass grade compared to students who are enrolled for a standard letter grade. Their perceptions, however, were not always equivalent; for while the faculty thought that reduced pressures sometimes lead to reduced performance, the students did not view reductions of course pressures in a negative light. In the sections which follow on exploration and quality, the reader will see that

the majority of the students regard the reduction in course effort as beneficial not simply to avoid work but rather to give them some freedom for exploration while still maintaining a full program of university work.

SECTION III

EXPLORATION

More than any other positive value attributed to the potential effects of the introduction of a partial pass/not pass grading system at Berkeley, was the anticipated gain in freedom of time and mind to explore unfamiliar courses, pursue novel subjects and tasks, and choose courses for intellectual pleasure instead of curricular requirements.

FACULTY OPINION

The very first question on the faculty survey asked: "How effective do you think Berkeley's pass/not pass system has been in achieving one of its primary goals of providing an opportunity for students to explore subject areas with which they are unfamiliar?" Almost all (233 out of 244) of the faculty respondents replied to this question and most of them, 76%, thought the new grading system had the desired effect; however, they were not enthusiastic in their response, for 60% of the number said it was only moderately effective. The faculty was more enthusiastic about the use of the option by the students to choose a course for enjoyment and intellectual pleasure. Almost twice the percentage, 29%, compared to the previous survey item, strongly agreed that students used the pass/not pass option on this basis; and over half, 56%, moderately agreed.

Two more specialized questions were asked of the faculty respondents on the issue of exploration. A majority, 60%, of the respondents said that the pass/not pass option was moderately effective in allowing students to seek challenging courses for breadth requirements without fear of receiving a poor grade. Those who thought the option very effective (13%) in this objective were more than balanced by those who thought it ineffective, or moderately ineffective (9% and 18%, respectively). A longer range effect of the pass/not pass option which considered the possiblity that the opportunity to explore unfamiliar subjects would cause a student to change his major field of study was rejected by a majority of the faculty, 66%; most of the remainder, 30%, thought the option had a moderate effect for this type of student reaction.

In the faculty survey section which asked for responses from those who had taught courses which included students enrolled for a pass/not pass grade, a majority, 58%, of the number who responded (169) said it was partially true that students took their courses for pass/not pass grades to fulfill breadth requirements and 9% said it was entirely true; 32%, said it was not true.

STUDENT OPINION

There were over a dozen questions on the student survey which related to their perceived value of pass/not pass grading on academic exploration. The responses of the undergraduates surveyed are shown in Table 11, and there is no indication of high positive attitudes; nevertheless, the weighted values, with one exception, all lie on the positive side of the 7 point response scale used in the student questionnaire.

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Table 11

STUDENT PERCEPTION OF EXPLORATION

Per Cent and Weighted Scores of Undergraduate Student Attitude and Perceptions of the Use of Pass/Not Pass Grading as a Stimulus for Academic Exploration at Berkeley.

Survey Item	Number of Responses (Maximum 1,205)	SCALE							WEIGHTED SCORE
		Less Important			Neutral	More Important			
		1	2	3	4	5	6	7	
		PERCENT							
(A) How Important are the Following Reasons for Electing Pass/Not Pass Grading:									
Take courses in new or unfamiliar subject	938	9	7	7	8	17	30	21	4.9
Provide freedom to explore own interests	937	10	9	9	16	19	21	16	4.5
Allow time to pursue activities outside of school	937	16	13	13	15	18	15	10	3.9
Allow time for intellectual interests outside of course work	937	14	12	14	19	19	13	9	3.9
(B) How Important are the Following Reasons for NOT Electing Pass/Not Pass Grading:									
Unable to elect pass/not pass as courses have been in my major area	1,179	18	8	5	11	14	16	27	4.5
		SCALE							
		Less Than Letter Graded Courses			Same†	More Than Letter Graded Courses			
		1	2	3	4	5	6	7	
		PERCENT							
(C) Compared to Graded Courses, What was your Actual Experience in Pass/Not Pass Courses:									
Time allowed for activities outside of course	925	1	3	5	23	28	26	13	5.0
Breadth of interests outside of major	911	2	2	4	34	24	23	13	4.9
Freedom to explore own interests within course	919	3	6	6	31	23	19	11	4.7
Pursuit of new ideas	921	3	5	7	35	22	18	10	4.6
Excitement about learning	925	2	3	7	41	19	18	10	4.6
Awareness of problems of society	907	3	5	4	52	16	12	8	4.4
Inclination to explore subjects in depth	925	4	5	13	39	18	13	7	4.3
Breadth of interests inside major	901	5	5	7	55	13	9	6	4.2
Opportunity to explore subjects in depth	922	4	9	13	41	18	10	4	4.1

†Students were instructed on these items to rate a letter-graded course as 4, no difference between types of grading.

The most positive response (5.0 weighted score) of the students was their indication that, compared to a course taken for a standard letter grade, a course taken for a pass/not pass grade allowed more time for activities outside of the course. The students who responded to the set of questions shown in Table 11, Part C (about 925 out of the sample size of 1,205) were consistent in their positive attitudes, although the level of their responses to several questions which dealt with increased freedom to explore outside of the course or outside of their major field was of low intensity. With weighted scores of 4.5 to 4.9, values just above the neutral zone, the students stated that pass/not pass grading (a) increased the extent of the student's interest outside of their own majors, (b) allowed them to take courses in new or unfamiliar subjects, (c) increased their freedom to explore their own interests, (d) encouraged them to pursue new ideas and allowed them to experience a higher level of excitement about learning, per se. In effect, then, the majority of the students stated that in their opinion pass/not pass grading had met one of the objectives of the Select Committee on Education; namely, that the new grading system would "create an academic milieu with greater freedom, diversity, leisure, and personally-motivated inquiry."[15]

This new found freedom apparently does not apply to the pursuit of activities outside of the university nor to intellectual interests outside of course work, for the students were collectively neutral to these reasons for electing to take a course for a pass/not pass grade (weighted score of each, 3.9). The students were only marginally positive (weighted scores 4.1 to 4.4) about the value that the option had on increasing their awareness of problems of society, extending their inclination or enhancing their opportunity

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[15] *Education at Berkeley*, *Op. Cit.*, *pg. 99*

to explore subjects in depth, and broadening their interests inside of their major fields.

One reason that some of the students do not use pass/not pass grading is that the opportunity is not always there, most obviously when all the courses they must take during a particular academic term are in their major area. This limitation is not a very important factor (weighted score 4.5), but it does represent some reduction in the student's opportunities each term for the types of exploration to which they have given positive value.

FACTS

Gathering precise data with regard to the undergraduate student's actual use of the pass/not pass grading option for exploratory purposes is virtually impossible, short of direct examination of each individual's academic program and personal interview concerning his or her perception as to which courses were exploratory. Nevertheless, an objective examination of student behavior can be made which, while it falls short of any conclusive evidence as to student course exploration through the stimulus of pass/not pass grading, does present a broad overview of the probable impact which the new grading option has had on such exploration.

To make this overview, data were assembled using files for all undergraduate students at Berkeley and all courses taught at Berkeley (except physical education activity courses and independent study courses for the fall quarters 1968, 1970 and 1971). The students and courses were grouped into eleven subject areas. Three different sets of data were examined: (a) pass/not pass course enrollments generated by undergraduate students [P/NP students], (b) all course enrollments generated by these same P/NP students and (c) all course enrollments generated by students who were not

enrolled for any pass/not pass grade [non-P/NP students].

Two types of facts are readily available from the sets of data noted above. The first gives a simple distribution of the course subject areas where the option was used; the second compares the pattern of course enrollments of P/NP students and non-P/NP students. The first is of limited interest for this report for, while it displays the extent and intensity of the use of the op on by student groups arranged by field of study, it tells nothing about exploration. The question which must be asked is whether those same students would have generated these same enrollments if a pass/not pass grading system had not been in operation. The second set of data provides a broad examination of the degree of difference between the pattern of course enrollments for P/NP students and non-P/NP students for each subject area. This examination attempts to discover whether there exists a consistent and sufficient difference which would permit one to say that the new grading innovation has evoked and promoted a desire for course exploration over and above that ordinarily found among the undergraduate students at Berkeley.

The simple distribution of pass/not pass usage by student groups is shown in Table 12 (see Appendix E for details). Students in the professional colleges and schools use their pass/not pass option most often in courses offered by the College of Letters and Science, 65% to 89%. The divisions of humanities and social sciences in the College of Letters and Science account for the majority of this usage. The proportion of courses taken for a pass/not pass grade by students within their own professional college or school varies widely from a low of 2% in chemistry to a high of 33% in the professional schools.

Students in the College of Letters and Science average 17% of their pass/not pass courses outside of their college, with the

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Table 12

SUBJECT AREA USE OF PASS/NOT PASS

Per Cent of Pass/Not Pass Course Enrollments by Students Arranged by Subject Areas at Berkeley for a Three-Term Average (Fall Quarters 1968, 1970, 1971).

(Total Student Population Base†)

Subject Area of Students	Subject Matter of Courses											
	Professional Colleges & Schools						College of Letters & Science					
	Agric.	Chem.	Engr.	Envir. Design	Prof. Schs.	Ethnic Stud.	Total L&S	Bio. Sci.	Hum.	Phscl Sci.	Soc. Sci.	Misc.
Agricultural Sciences	13.7	4.0	1.1	.6	10.5	2.0	68.1	13.2	13.1	9.2	30.6	1.9
Chemistry	.9	1.6	1.0	1.3	1.9	4.3	88.9	3.4	47.3	6.5	30.7	.9
Engineering	.1	.3	12.9	1.2	3.4	3.7	73.4	1.7	16.0	8.1	51.8	.8
Environmental Design	.5	.2	6.2	14.8	9.2	1.7	67.2	3.8	22.6	10.1	27.2	3.6
Professional Schools	.5	.1	.1	.2	32.8	1.0	65.2	6.3	17.3	8.1	32.0	1.5
Ethnic Studies††	-	-	-	-	-	28.5	71.5	-	50.0	-	21.5	-
Letters & Science, Total	2.0	.9	.3	.9	11.0	2.2	82.7	6.2	31.3	10.9	31.1	3.2
Upper Division Students												
Biological Sciences	2.6	1.9	.4	.8	7.2	2.3	84.9	15.7	24.6	6.1	36.2	2.4
Humanities	1.7	.2	.1	1.5	10.1	.9	85.5	4.5	42.5	7.2	28.6	2.7
Physical Sciences	1.5	.5	1.8	.2	8.5	1.7	85.8	4.3	31.2	17.7	31.1	1.4
Social Sciences	1.6	.5	.3	1.2	16.0	1.0	79.3	4.0	28.9	9.9	34.3	2.2
Lower Division Students	2.3	1.2	.3	.6	9.0	3.2	83.4	7.0	30.3	12.5	29.4	4.2
TOTAL, Campus	2.0	.9	1.4	1.3	11.4	2.2	80.8	5.9	29.1	10.5	32.3	3.0

†See Appendix E for details.

††Three-term averages shown for Ethnic Studies are based on only two years of the new program.

bulk being taken in courses offered by the professional schools. Within the College of Letters and Science, as within the professional colleges and schools, the same subject areas, humanities and social sciences, account for most of the pass/not pass enrollment taken by Letters and Science students as well as students in these two fields, themselves. The per cent of pass/not pass courses taken within their own subject area by students in Letters and Science ranges from 16% for biological sciences to 42% for humanities.

Table 13 gives a quick comparison of the major differences between P/NP students and non-P/NP students and Appendices F and G give more details. There are two important points to be made about this table and the more detailed information which can be found in Appendices F and G. First, the differences are not large; that is, the range in the per cent difference between course enrollments within their own subject area generated by P/NP students compared to non-P/NP students is from a low of 2% for engineering to a high of 14% for environmental design, with an average difference of 7%. These differences are taken from the diagonal of Table 13 which compares equal subject areas for students and courses.

Although perhaps a bit intricate, several facts already determined can be brought together to assess the meaning of the 7% average difference between all course work taken within their own subject areas by P/NP students compared to non-P/NP students. In Section I, it was noted that the average number of courses taken per student is 3.32 and that the average number of pass/not pass courses taken by the P/NP students is roughly 1.1. This means that the P/NP student's enrollment in a course in which the option is used constitutes 33% of his total course load; in turn, the same 33% figure applies for the distribution of course enrollments shown in Table 13 in which the per cent figure in the upper half of the box represents all course work by P/NP students. Thus, if exploration

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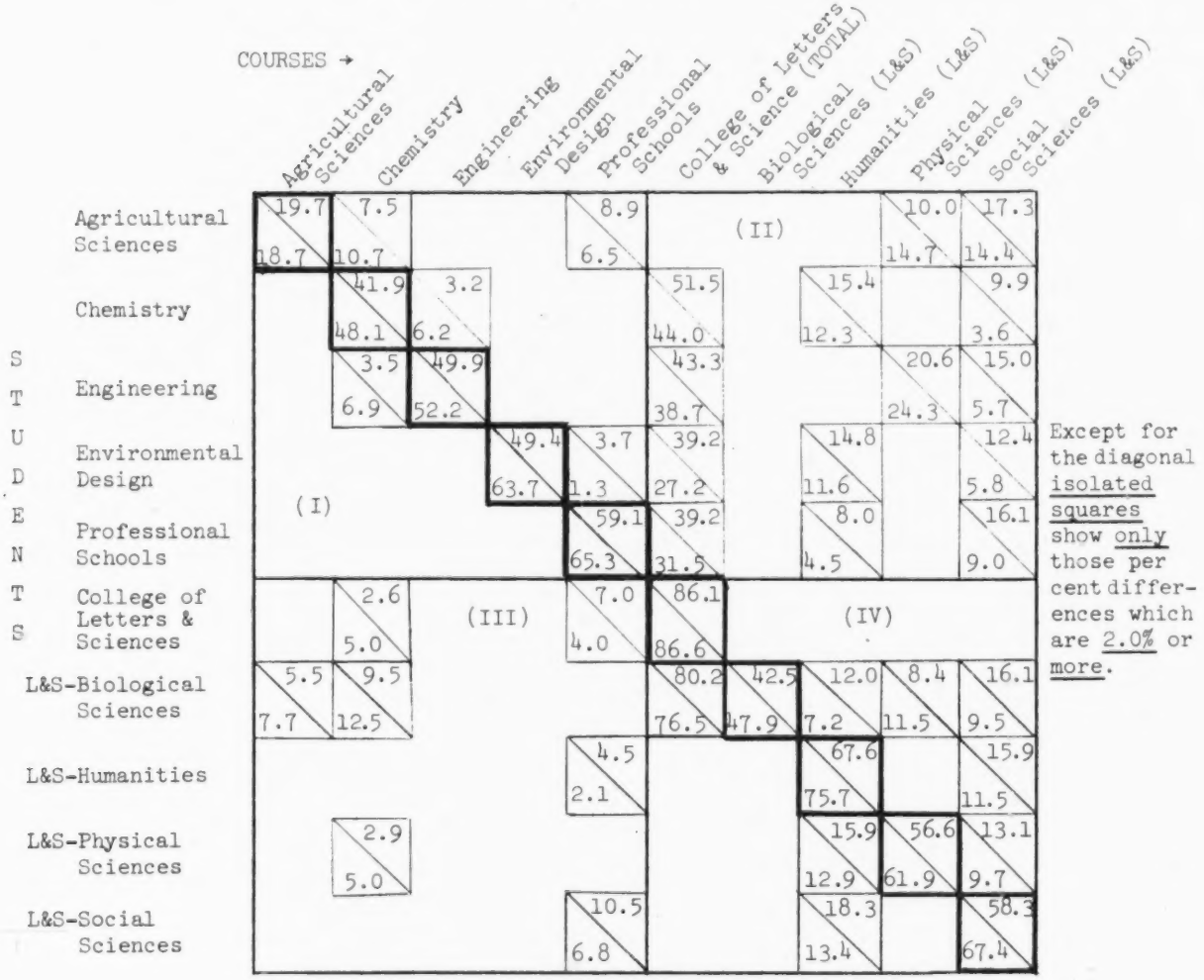
Table 13

EXPLORATION

Per Cent of Course Work Taken Within the Undergraduate Student's Own Subject Area at Berkeley for a Three-Term Average (Fall Quarters 1968, 1970, 1971)

Selected Comparisons Between Students Who Took Pass/Not Pass Courses Those Terms and Students Who Did Not.†

(Total Student Population Base)



Except for the diagonal isolated squares show only those per cent differences which are 2.0% or more.

KEY: Upper figure = per cent for pass/not pass students
Lower figure = per cent for non-pass/not pass students

†See Appendices F and G for details.

were defined as course work outside of one's own subject area, although this would be an improper limitation to the Select Committee's anticipated benefit of the pass/not pass grading system on exploration, the average 7% difference already noted would indicate that the P/NP student was at best exploring a fractional amount more than his non-P/NP peer. However, even this fractional behavioral difference is diminished by the knowledge that the pass/not pass system has regulations which severely limit the use of the option in courses required for the major and courses prerequisite to those requirements. In other words, one would expect to find a difference in Table 13 not due to exploration, but due to the rules of the system which would tend to force the student to use the option in subject areas other than his own. What needs to be emphasized here is not that students fail to use the pass/not pass option for exploratory purposes, but rather that all undergraduates do a fair amount of exploration as measured by significant amounts of course work taken outside their own fields.

The four quadrants of Table 13 reveal the exploratory behavior of the P/NP students compared to the non-P/NP students. Using only per cent differences which are 2% or more, the four quadrants show that (a) both types of students in the professional colleges and schools do not differ much at all in their course loads taken in professional colleges and schools other than their own (quadrant I); (b) these same students do differ in course loads within the College of Letters and Science, with the P/NP students taking more work in the social sciences and humanities and less work in the physical sciences than the non-P/NP students (quadrant II); (c) the College of Letters and Science students who are non-P/NP students take more course work in chemistry than P/NP students but less work in the professional schools (quadrant III); (d) and within the College of Letters and Science, the differences between P/NP students and non-P/NP students lie in the amount of course work taken in the humanities

and social sciences, almost to the exclusion of any other areas; in fact, the sole exception is the greater work done by the non-P/NP students who are majors in the biological sciences and who take more work than the biological sciences P/NP students in the courses of the physical sciences departments (11.5% compared to 8.4%, respectively).

The evidence is clear, but certainly not conclusive, that exploration is not an important benefit of the pass/not pass grading system. The perceptions of the faculty and students cannot be entirely discounted when they attribute some positive exploratory behavior among students with regard to the grading option. The question remains as to why the social sciences receive the main part of the small per cent difference (7%) in the course work distribution between the type of student who takes courses for a pass/not pass grade and those who do not. The simplest explanation may be that this subject area, with its wide diversity of topics ranging from economics to psychology, provides the most likely area for student exploration whether or not via the pass/not pass grading option; and if a student is the type to use the option, his or her exploration is enhanced by a higher degree of course enjoyment.

SUMMARY

In their perception of the undergraduate student's use of the pass/not pass grading option, the majority of the faculty thought the option had the desired effect of providing the opportunity for students to explore unfamiliar subject areas. The students also indicated that the option was important to them for taking courses in unfamiliar subject areas and for providing some freedom to explore their own interests; but they thought the availability of the option had no effect on their use of it to pursue

activities outside of the university and none on their use of it to permit them to pursue intellectual interests outside of course work. In general, when the student respondents compared their experience in courses graded with standard letter grades to those courses graded pass/not pass, they indicated that their intellectual experiences, such as pursuit of new ideas, excitement about learning, greater exploration of subject-matter, and awareness of the problems of society were only marginally enhanced by the use of the pass/not pass option. They did think, however, that there was some benefit in the option in that it provided them with more time for activities outside of the particular course they were taking for a pass/not pass grade and it provided them an opportunity for increasing their breadth of interests outside of their own major.

There are no conclusive, objective means for measurements of course exploration available inasmuch as the concept of course exploration as used in this study must be individually defined by each student. An inconclusive but very revealing objective measurement was made which compared those students for three different fall terms who use the pass/not pass option with those who do not. The comparison includes all undergraduate students in all the schools and colleges at Berkeley (three-term average 17,121) and the course work they took in all courses of the departments of instruction. Students and course work were grouped into eleven different subject areas. The objective measurement was made to determine if students who use the option took more work outside of their own area than did students who do not use the option. An overall average difference was found, 7%, and the area of greatest concentration for this outside course work was in the social sciences of the College of Letters and Science. This per cent difference falls far short of the maximum difference, 33%, and, in part, even this small difference can be explained as a natural result of the rules which govern the pass/not pass grading system. The results of this analysis

clearly show little difference between the two types of students. In other words, the amount of exploration outside of one's own subject area is roughly the same for students who use the pass/not pass option as for students who do not.

SECTION IV

QUALITY

FACULTY OPINION

Since quality is what scholastic grades are all about, a natural question about pass/not pass grading is whether it changes the quality of student performance. This question is certainly uppermost in the minds of the faculty when they comment on grading innovations. In terms of standard letter grading, the faculty who were surveyed in the Spring Quarter 1970 were asked to respond to the very direct statement, "If I were giving letter grades to the pass/not pass students, their grades would fall above the class average." Among the faculty who replied (178 out of sample size of 244) there was an unequal but not disparate division with 55% stating that in their experiences with grading these students this was a true statement (48% partially true and 7% entirely true), and 45% stating it was not true. This response is worth considering for a moment in view of empirical evidence given later in this section of the study which shows that above-average students have a higher propensity for electing the pass/not pass option than students whose overall scholastic performances are about average. If the faculty's knowledge or perceptions are accurate, that is, the two opposing groups are reporting verifiable observations, then one

conclusion is that some faculty encounter only those above-average students who are exploring courses more difficult for them than courses they would have taken without the availability of the option, and other faculty encounter only those above-average students who are consistent high-grade earners regardless of course content. The probability of this assumption being correct must be very low. A more plausible explanation is that either the faculty respondents' general attitudes to pass/not pass grading affect their responses to the question or these attitudes affect the level of grade they award to the students. The reader may form his own judgment as he reviews faculty responses to other questions in the survey as they are discussed in the paragraphs which follow.

A majority of the same number of faculty, 71%, said it was either partially true (45%) or entirely true (26%) that students enrolled for pass/not pass grades in the courses they taught were just as conscientious about classwork assignments as letter-graded students in the same courses.

Among a smaller (about 130) group of respondents than those answering the two survey items noted in the preceding comments, namely those faculty who said they knew which students were enrolled in their courses for pass/not pass grading, the observations were not particularly positive; in fact, in each instance the majority of these respondents saw no difference between these students and those who were enrolled for standard letter grades. Compared to letter-graded students, 27% of the faculty said that pass/not pass graded students attended class less often, 1% said more often, and the remainder, 71%, said they attended as often. Nevertheless, if the student attended class, few of the faculty observers noted any reduction in the degree of attention given by students to class instruction, for, only 14% of the faculty said pass/not pass students were less attentive compared to 5% who said they were more

attentive, 81% said as attentive. On two other questions of comparison to letter-graded students, the faculty response was very similar: roughly 60% said that preparation and participation in classroom discussions was the same, between 26% and 30% said the pass/not pass students were less prepared and they participated less often, and the remainder, about 10% stated that preparation and participation were greater. A sizable fraction of the faculty, then, about one quarter, who knew who were the pass/not pass students in their courses, indicated their concern with the quality of student performance. Only a much smaller fraction viewed students enrolled for a pass/not pass grade as actually outperforming students who chose to earn a standard letter grade.

The question of the quality of academic work was raised directly with a very small number (41 to 43) of faculty respondents who stated they had taught courses in which all enrolled students were graded pass/not pass. In answer to the question, "How would you compare the overall quality of work done by students in your [wholly] pass/not pass courses with work done in your regularly graded classes?", the respondents distributed themselves in this manner: 17% better quality, 58% same quality and 24% poorer quality. These same faculty were more positive with reference to the general level of interest shown by students in their wholly pass/not pass-graded courses. Although the majority, 60%, said student interest was the same as in letter-graded courses, 28% said it was higher.

Most of the 244 faculty who completed and returned a questionnaire responded to three items which concerned objectives of the new grading option and which referred to problems of quality. These three survey items are worth quoting here in full to allow for full appreciation of the faculty's response. The first item stated, "Prior to the initiation of the pass/not pass system, students said that often their elective choices were based on the ease or

difficulty of getting a good grade," and then the item asked, "Do you think the pass/not pass option has been effective in eliminating this method of choosing an elective?" A faculty majority of 56% said the option was moderately effective in achieving this objective, 17% said it was very effective, 21% moderately ineffective and 6% entirely ineffective.

The second item asked, "What is your opinion of the following statement? A pass/not pass option encourages self-motivation, in that each student performs on the basis of his own interest rather than to seek a grade." Half of the faculty (51%) said they moderately agreed with the statement, 22% strongly agreed, 16% moderately disagreed and 11% strongly disagreed.

The last item noted that "It was hoped that the pass/not pass option would allow students to be more creative in the manner in which they work with course material," and, then, the item asked, "Do you agree that this happened?" The faculty were less sanguine that the option had achieved this objective, for, 18% strongly disagreed, 40% moderately disagreed, 33% moderately agreed and 8% strongly agreed.

As noted previously, the small number of faculty who taught courses wholly pass/not pass and who responded to the survey were not enthusiastic that this option promoted better quality, although they were somewhat more enthused by the students' show of interest in the course work. These same faculty, about 43, responded to a series of questions which dealt with their experiences in teaching the wholly pass/not pass courses with reference not so much to the student as to their own role in such courses compared to standard letter-graded courses. Their responses are shown in Table 14 and are self-explanatory. The results can be summarized by noting that these faculty respondents enjoying teaching such

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Table 14

QUALITY IN COURSES GRADED WHOLLY PASS/NOT PASS

Per Cent Distribution of a Small Group of Faculty Who Responded to Questions Regarding Their Experiences With Teaching Courses Offered to the Student on a Wholly Pass/Not Pass Grading Basis†

Survey Item	PER CENT	
	YES	NO
a) Do you plan to continue teaching courses on a pass/not pass basis?	95	5
b) Are there advantages in teaching a course solely on a pass/not pass basis?	86	14
c) Have you noticed whether students in your pass/not pass course approach the subject in a different manner or with a different attitude, than students in your regularly graded courses?	56	44
d) Are there disadvantages in teaching a course solely on a pass/not pass basis?	48	52
e) Is there a difference in the method of presenting the subject matter between your pass/not pass class and a regularly-graded class?	27	73
f) Is there a difference in determining assignments for your pass/not pass course than your regularly-graded course?	25	75
g) Have you found a difference in the amount of planning needed for your pass/not pass course for your regularly-graded? courses	19	81

†Since few such courses have been taught at Berkeley since 1966, only 41 to 43 faculty respondents answered these questions among the total response group of 244 faculty.

courses, they saw more advantages than disadvantages, they rejected notions that such courses required different presentations, assignments or planning, and they were about equally divided between those who noticed differences in the student's manner or approach to the course and those who noticed no differences in these aspects of student behavior.

Despite the generally positive attitude expressed by the faculty who taught courses which required the student to enroll for a pass/not pass grade, the records indicate a very small interest among all the faculty in teaching courses in this manner. The Select Committee's expectation was that undergraduate survey lecture courses would be graded wholly pass/not pass, since it was their opinion that discriminate grading was not viable, for most of these courses do not affect the student's future major program. Also, the Committee felt this procedure "would in turn release the time and energy of faculty members for more discriminate grading in courses where the student's performance can be seriously evaluated."[16]

The Committee's expectation has not been realized. An examination of all undergraduate lecture courses taught wholly pass/not pass for the fall terms 1966, 1968. 1970 and 1971 reveals that less than a handful of survey lecture courses have been taught in this manner each term (see Table 15). In Fall 1966, when the pass/not pass option was introduced at Berkeley, four survey courses were taught wholly pass/not pass. In Fall 1971, four similar courses were taught, but they were a different four. The only proliferation of lecture courses offered wholly pass/not pass has occured in the School of Education; however, these courses are not general survey courses.

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[16] *Op. cit.*, p. 100

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Table 15

ALL COURSES TAUGHT WHOLLY PASS/NOT PASS

Listing and Enrollments of All Undergraduate Courses Taught in which the Students were Required to Enroll for a Pass/Not Pass Grade Offered at Berkeley, Fall Quarters 1966, 1968, 1970 and 1971.

Department	Course Number†	Enrollment Fall Term††			
		1966	1968	1970	1971
Arts and Science	104A		46		
Conservation & Natural Resources	49				39
Contemporary Asian Studies	3			138	
	30			14	
	197			34	
Criminology	191I			102	
Dramatic Art	45A-B				75
Education	110*			246	249
	130*			53	35
	131A-F*			184	
	191	5	26		
	192	3	52	10	34
	193	3	49	321	24
	194		80	70	42
English	1A*				29
Genetics	10	148			
Mathematics	10	49			
Molecular Biology	120				36
Physiology	10			207	114
Psychology	160	197			
Statistics	2	138			
TOTAL ENROLLMENT	-	543	253	1,379	677

†(*) Courses marked with an asterisk are multi-sectioned courses in which not all sections were offered wholly pass/not pass.

†† No entry indicates either not offered or not given wholly pass/not pass.

The evidence is clear that the faculty is not attracted to teaching a course which prohibits a student from enrolling for a standard letter grade. Their actions may be partially founded on opinions they received independently in discussions with students, for, opinions given by students to this survey reveal support for the concept that a student should have the option to elect either a standard letter grade or a pass/not pass grade in every course at all times. Other explanations can be perceived for the lack of interest among the faculty in the presumed innovative program, but the simplest explanation may be that they do not consider the program educationally sound.

STUDENT OPINION

The undergraduate students did not find significant differences in the quality of their academic experience between courses taken for a pass/not pass grade compared to courses taken for a standard letter grade; nor did the same students attest to enrolling for pass/not pass grades in order to improve the quality of their performance, except in the negative sense where they questioned their own competence or where they were concerned with grades earned in courses taken for a letter grade. When they chose the option, the students indicated by their responses that they were indifferent to pass/not pass grading providing them with an opportunity for creativity or experimentation with course materials. Also, they gave little importance to election of the option for reasons of (a) maintaining or improving their grade-point average, (b) pursuing in depth the course work beyond normal expectations, (c) learning from the students, and (d) working more closely with the instructor. As just noted, however, in a more negative than positive sense, the undergraduate respondents did give some importance to electing the option when it allowed them to take courses where they were uncertain about their academic competence, and, also when it allowed them time

to study for other courses. Table 16 shows the level of importance they gave these reasons (5.0 and 4.8 on a 7-point scale) and the table, also, gives the weighted scores for the other 31 items in the survey which attempt to ascertain student attitudes and perceptions with regard to the manner in which pass/not pass grading may change the quality of their academic performances.

While the students, on the one hand, were indifferent to the use of the option as a means for providing opportunities for more creativity (Part A of Table 16), they stated, on the other hand, that they experienced the opportunity to be creative once they were enrolled in a pass/not pass grade compared to a letter grade (Part C of Table 16). This type of reversal, giving an indifferent response to a reason for electing the option but then stating that their actual experience proved the reason to have some merit over letter graded courses occurs also for experimentation with course materials. In both reversals, however, the degree that pass/not pass course work is considered superior to letter grade course work is nominally above the neutral value of 4 (4.5 and 4.4, respectively, for creativity and experimentation). In fact, if one examines the details of the student responses shown in Part C of Table 16 the most striking fact is that, except for a few items, roughly 40% to 65% of the respondents had checked the score of 4; this means that the modal or majority group saw no difference in the quality of their academic performance or experience in courses taken for pass/not pass grades compared to courses taken for letter grades.

Most of the items in Part C of Table 16 with weighted scores of 4.1 and above can be characterized as non-objective evaluations in the sense that most of them are not readily measurable by objective standards. Most of us, under the best circumstances, would have difficulty in knowing whether or not one teaching

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Table 16

STUDENT RESPONSE TO THE QUALITY OF PASS/NOT PASS GRADING

Per Cent and Weighted Scores of Undergraduate Student Attitudes and Perceptions of the Academic Quality Differences between Pass/Not Pass Grading and Standard Letter Grading at Berkeley

Survey Item	Number of Responses (Maximum 1,205)	SCALE							WEIGHTED SCORE
		Less Important			Neutral	More Important			
		1	2	3	4	5	6	7	
		PERCENT							
(A) How Important are the Following Reasons for Electing Pass/Not Pass Grading:									
Take courses where personal competence is uncertain	934	8	6	5	10	22	25	21	5.0
Allow time to study for other courses	936	9	7	7	12	19	25	19	4.8
Provide opportunity to be more creative	930	14	15	13	17	13	14	13	3.9
Allow for experimentation with course materials	934	16	16	13	15	13	14	12	3.8
Maintain or improve grade-point average	935	22	13	10	14	15	14	11	3.7
Pursue subject of course in depth	929	20	20	17	20	10	6	6	3.2
Learn from other students	911	30	20	12	18	9	6	5	2.9
Work more closely with instructor	931	33	20	15	17	5	5	4	2.7
(B) How Important are the Following Reasons for NOT Electing Pass/Not Pass Grading:									
Need grades to get into graduate school	1,187	18	8	5	11	15	22	22	4.5
Need to improve or maintain my grade-point average	1,190	20	10	8	15	16	18	13	4.0
Need grades to get a good job	1,186	34	15	9	17	11	8	5	3.0
Need grades to obtain or keep special fellowhips, awards, or privileges	1,185	48	12	5	8	7	10	8	2.8
Feel guilty if [I] take pass/not pass grading as there is less work	1,150	75	12	4	4	2	2	1	1.6

Table 16 (Continued)

STUDENT RESPONSE TO THE QUALITY OF PASS/NOT PASS GRADING

Survey Item	Number of Responses (Maximum 1,205)	SCALE							WEIGHTED SCORE
		Less Than Letter Graded Courses			Same†	More Than Letter Graded Courses			
		1	2	3	4	5	6	7	
		PERCENT							
(C) Compared to Graded Courses, What was your Actual Experience in Pass/Not Pass Courses:									
Opportunity to be more creative	921	4	6	7	34	20	17	11	4.5
Ability to evaluate self	920	2	3	6	49	19	14	6	4.4
Experimentation with course materials	919	4	7	7	37	19	15	9	4.4
Learning how to learn	921	4	5	8	43	16	14	9	4.4
Positive attitude of instructor	905	3	3	6	62	10	8	9	4.3
Amount of knowledge retained	925	3	5	13	45	14	13	7	4.3
Fairness in your evaluation by instructor	906	2	2	4	68	10	8	6	4.3
Interest in course material	922	6	6	11	39	16	12	8	4.2
Ability to delay personal rewards	874	2	5	6	63	11	8	4	4.2
Amount you learned from the course	917	4	5	15	47	14	8	7	4.1
Motivation	921	5	8	18	36	15	11	6	4.1
Your participation in class	919	5	6	11	59	8	6	4	4.0
Ability to work to capacity	916	5	10	17	41	13	10	4	3.9
Your attendance at class	921	4	6	14	61	5	5	4	3.9
Sense of competence in subject area	921	7	10	17	42	11	9	4	3.8
Learning from other students	915	10	8	8	53	10	7	4	3.8
Maintenance or improvement in grade-point average	905	12	10	8	47	11	7	5	3.7
Written and oral evaluations by instructor	899	9	9	9	57	7	5	3	3.7
Working closely with instructor	918	11	10	8	54	6	6	3	3.7
Time you spent studying	919	9	17	27	33	5	5	3	3.4

†Students were instructed on these items to assume that standard letter-graded courses had a rating of 4.

environment or another is conducive to creativity, self-evaluation, positive attitudes of the instructor, or one's ability to delay personal rewards. On the other hand, the student respondents could observe with some objectivity their participation in the class, their attendance, the time they spent studying, whether or not their grade-point average improved, or how closely they were able to work with the instructor. These latter observations by the students in Part C, and similar ones shown in the table, all have weighted scores 4.0 and below.

Although the scores are not greatly different, the separation between student perceptions of objective and non-objective behavior may imply a desire on the part of the students to be positive about pass/not pass grading unless this positive attitude conflicts with direct observations they have made of themselves and the instructor. This surmise is supported by the large percentage of respondents who checked the score of 4, i.e., no difference between the two grading systems.

Among the several reasons for not electing to enroll in a course for a pass/not pass grade, the only one which was important to the undergraduates was that they needed letter grades to help them assure their admission to graduate school (weighted score of 4.5). The distribution of students on the five survey items in Part B of Table 16 across the 7-point scale was, unlike the responses in Part C, more uniform and not concentrated at the neutral point. In fact, the responses to the items which ask how important letter grades were for admission to graduate school and improving or maintaining their grade-point averages almost show a bimodal distribution at the extreme scores of 1 and 2 and 6 and 7. Thus, to many students, these reasons for not electing pass/not pass are quite unimportant and to others they are very important.

FACTS

An objective assessment of the quality of undergraduate scholastic performance in a mixed grading system, such as Berkeley's, can be achieved only through indirect measurements. If, as the students say, they enjoy their courses more but they spend less time on them when taken for a pass/not pass grade, then only the instructor can make a judgment as to the quality of the work, compared to either his own standard or the standard established by students who choose to earn regular letter grades. Nevertheless, with data available from recent terms, in particular the fall quarters of 1970 and 1971 (and, in part, from fall quarter of 1968), several relationships can be explored which give some indications of the quality of the performance of the users of the pass/not pass option.

Among all undergraduates enrolled at Berkeley in the fall quarters of 1970 and 1971, the higher the cumulative grade-point average (all course work taken at Berkeley) the more likely the student was enrolled in one or more courses for a pass/not pass grade. Excluding students with below C averages who, although supposedly not eligible to elect the use of the option, had in some small number enrolled for a pass/not pass grade (see Appendix E for details) the per cent of students who used the option rises from about 27%, for students with averages between 2.00 and 2.49, to about 42% for students with averages between 3.50 and 4.00, for both fall terms (see Chart B).

As discussed in Section I the small decline between 1970 and 1971 in the use of the pass/not pass option among all undergraduates can be seen vividly by the complete separation of the two curves in Chart B. The decline in usage is greater among students with high grade-point averages, but, even though these curves represent many thousands of students, neither the overall decline

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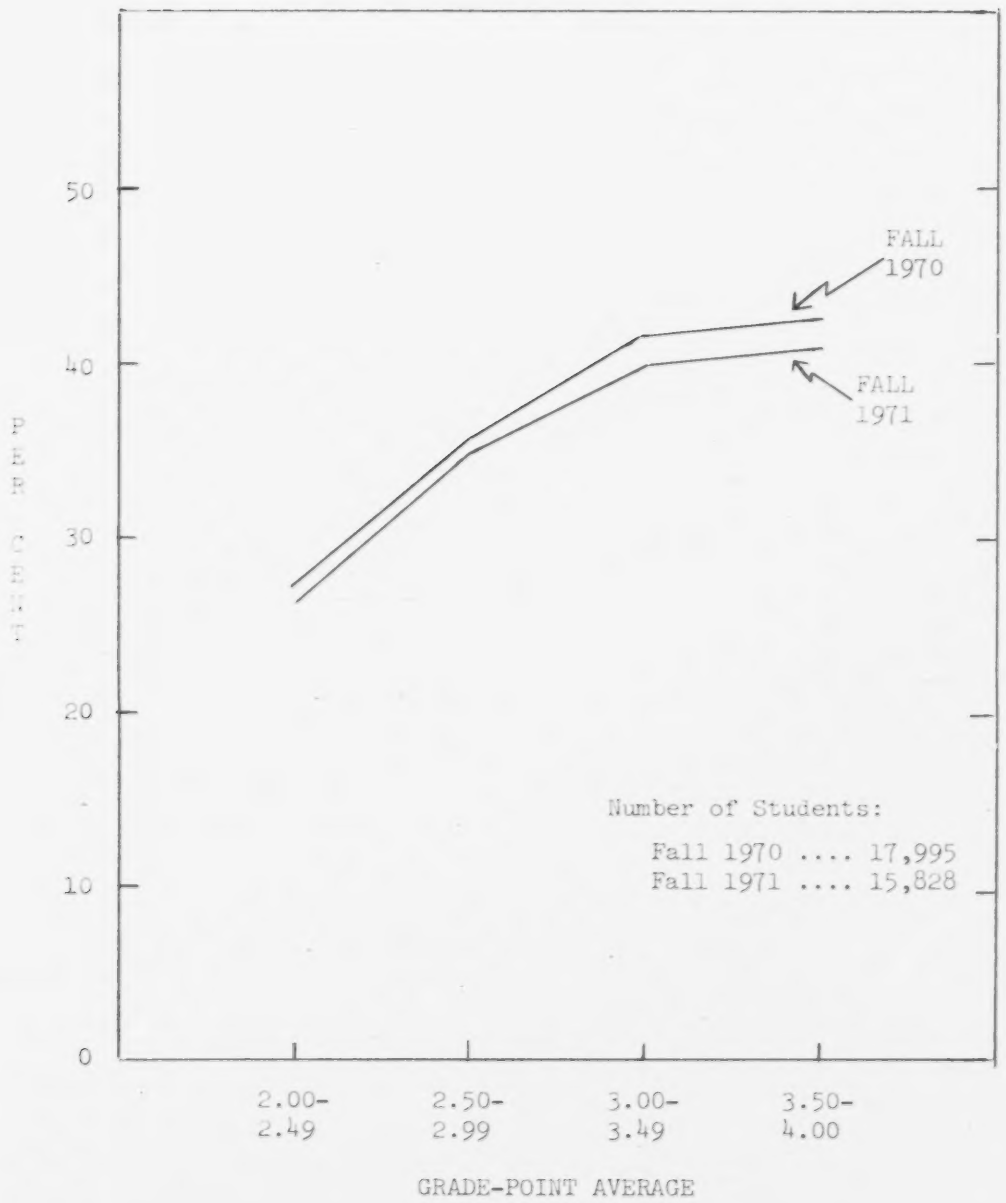
CHART b

Per Cent of Students Among All Students Within Each Grade-Point Average Interval Who Use the Pass/Not Pass Option at Berkeley.†

Fall Terms 1970 and 1971



†See Appendix H for details.

nor the greater decline among students with B or higher averages may represent a trend.

Not only does use of the pass/not pass option rise with rising scholastic performance, but students who use the option have higher scholastic averages proportionately than students who do not use the option: in Fall 1970, the pass/not pass users had 48% with grade-point averages of B and above, and in 1971, this percentage was 51%; in comparison, among non-users of the pass/not pass option the comparative per cent figures were 37% and 31%. The distinctly better scholastic performance of the students who use the option is seen in the displacement of the curves for the users toward the higher-grade-point averages shown in Chart C.

Taken together, the information in Charts B and C should dispel once and for all any thought that pass/not pass grading is a refuge for the incompetent. This is not to argue that the option has not benefited these students in achieving and maintaining a high scholastic average, for evidence is given in paragraphs which follow that will show that, most likely, they have benefited; it is rather, to argue that most of these students performed as well or better than non-users of the option when they were enrolled in courses in which they were graded by the standard letter grade system. Since pass/not pass grades are not considered in the determination of the grade-point average, and since the report has already shown in Section I that pass/not pass users take only one course out of three for a pass/not pass grade, then obviously these undergraduate students are in no manner inferior performers. Nevertheless, other facts indicate that without the option the users would have a performance curve in Chart C which would match more closely with non-users.

In a publication on scholastic grades at Berkeley the following comment was made:

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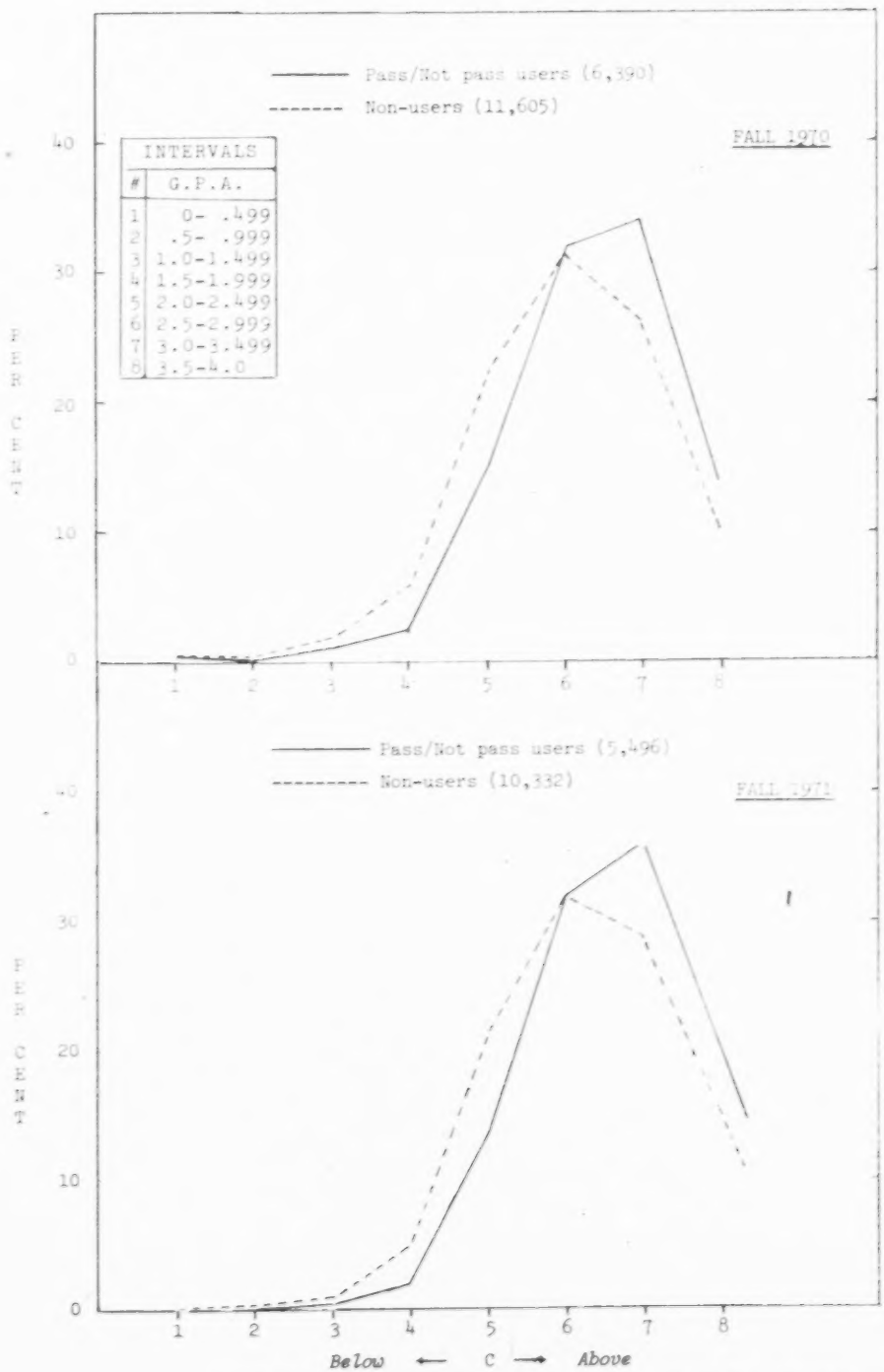
CHART C

Per Cent Distribution of All Undergraduates at Berkeley
Separated into Students Who Use the Pass/Not Pass Option
and Those Who Do Not by Their Cumulative Grade-Point Average



GRADE POINT AVERAGE INTERVALS (see insert above for values)

> Although the introduction of pass/not pass grading on a broad scale at the undergraduate course level in the Fall Quarter 1966 altered the per cent distribution so that precise comparisons with past years were no longer valid, the primary effect of this innovation appears in the decline of the proportion of 'B' and 'C' grades. The continued increase of the per cent of 'A' grades in the years 1967 and 1969, at both lower and upper division levels provides reasonable justification for the inference that 'P' grades has not been a substitute for 'A' grades.[17]

If this inference is correct, and if the evidence in Section III that pass/not pass users exhibit no unusual exploratory behavior is correct, also, then the conclusion must be that these students are using the option in those courses in which they perceive their academic abilities to be less than in other courses.

Further evidence of the reduced performance by the students when enrolled for a pass/not pass grade is given in Chart D. This chart considers the two types of course failure as measured by the instructor's grade, inadequate performance (D or F or Not Pass grades) and incomplete performance (I grade).

The fluctuations below grade-point averages of C are due to small numbers of students, but the similarities of the curves for both years considered leave no doubt that pass/not pass users are more likely to perform inadequately, as measured by the instructor, in those courses where they use the option compared to courses where they do not. While the overall probability of failure is small in either type of grading for students with averages of B and above, the ratio between the per cent of Not Pass grades earned and

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[17] *A Report on Scholarship Grades - University of California, Berkeley, Per Cent Distribution for Fall Terms 1961, 1963, 1965, 1967, 1969. Office of Institutional Research, October, 1970, p. 2.*

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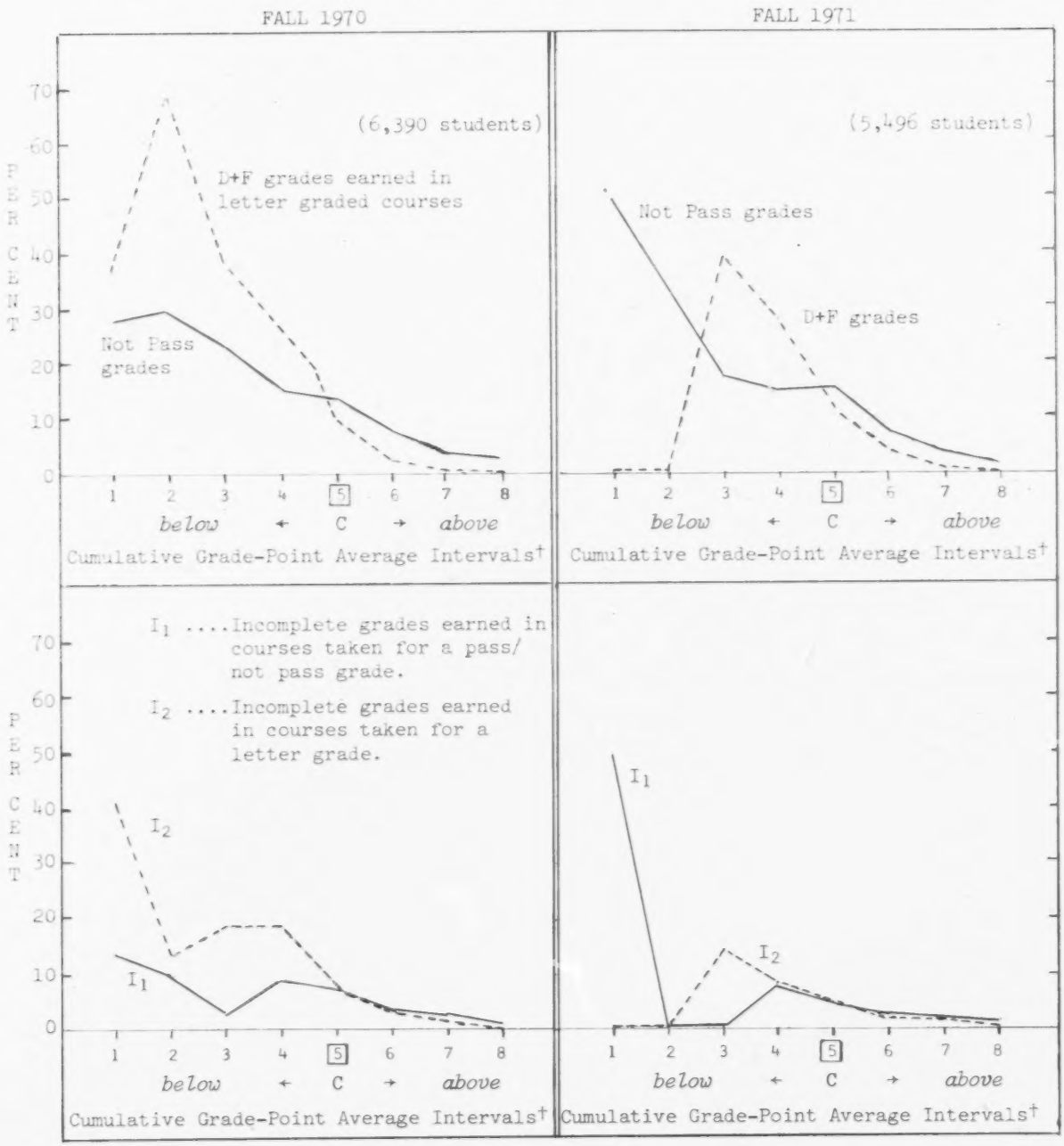
CHART D

Below Average and Incomplete Grades Earned by Students Who Use the Pass/Not Pass Option by Grade-Point Averages of the Students



†See Chart C for values.

D plus F grades earned is considerable. For example, where less than one student in a hundred with a grade-point average of B to B+ will earn a D or F grade, when they use the option almost four of them in a hundred will earn a Not Pass grade. It is worth noting here that the higher probability of earning a Not Pass grade by those who elect the option compared to their probability of earning a D or F grade was observed and reported to the administration and faculty for the first term the pass/not pass system was in operation, Fall 1966.[18]

Again, when one examines students who achieve a C average or higher, the per cent of students who earn an incomplete grade, whether in a course taken for a letter grade or for a pass/not pass grade, varies very little; but there is a perceptible cross-over of the curves for both years at the C+ point. Perhaps neither of these differences in performance are sufficiently large to warrant any concern about a possible reduced quality of scholastic effort, for two other explanations could provide the answers for the differences. First, the quality of performance may be the best the students could give even if they had taken the courses for a letter grade; that is, as discussed before, the students are using the option for courses difficult for them. Second, comments received from students reported in the last section of this study include criticism of some faculty who are perceived as grading more stringently students who elect the pass/not pass grade option. These perceptions may not be without foundation inasmuch as some faculty commented that they perceive the users of the option to be seeking an "easy" grade.

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[18] *Undergraduate Pass/Not Pass Grading at the University of California, Berkeley, Fall Quarter 1966. Office of Institutional Research, May, 1967.*

Although the magnitude is very small and regardless of their perceptions or behavior, the fact remains that students who elect to be graded on the pass/not pass system will increase their probability of failure and more likely than not, will work less and thereby gain less in these courses. But there is one additional empirical factor to consider which may affect these students, and that is their propensity to carry higher than average work loads. Twice the per cent of pass/not pass users enroll for 17 or more course units than non-users, about 27% to 13% (three-term average). This bulge above the standard unit load of 15 per quarter term, is seen in each of the curves for the Fall Quarter of 1968, 1970 and 1971 (in Charts F, F, and G) and in the tabular material given in Table 17.

The standard deviations for pass/not pass users and non-users for all three years are roughly comparable, but the distinct bulge for users at unit course value higher than 16 is large and has increased over time. An important point to note is that both pass/not pass users and non-users show increased unit loads, rising from 13.8 units per quarter in Fall 1968 to 14.2 in Fall, 1971 for non-users and rising from 14.9 to 15.3 for users in the same period.

The curves in Charts E, F and G show significantly higher percentages of pass/not pass students at each unit value from 16 through 20 compared to the non-pass/not pass students. In the fall terms of 1970 and 1971, a good part of this bulge is drawn from the peak area between the 14 and 15 unit values; but what is surprising is that so much of the bulge is drawn from unit values at or below the minimum unit load required for most students who are pursuing a normal undergraduate program, 12 units. A conjecture is that pass/not pass users normally would carry heavier than average workloads in the absence of a partial pass/not pass grading system or, perhaps, under any grading system.

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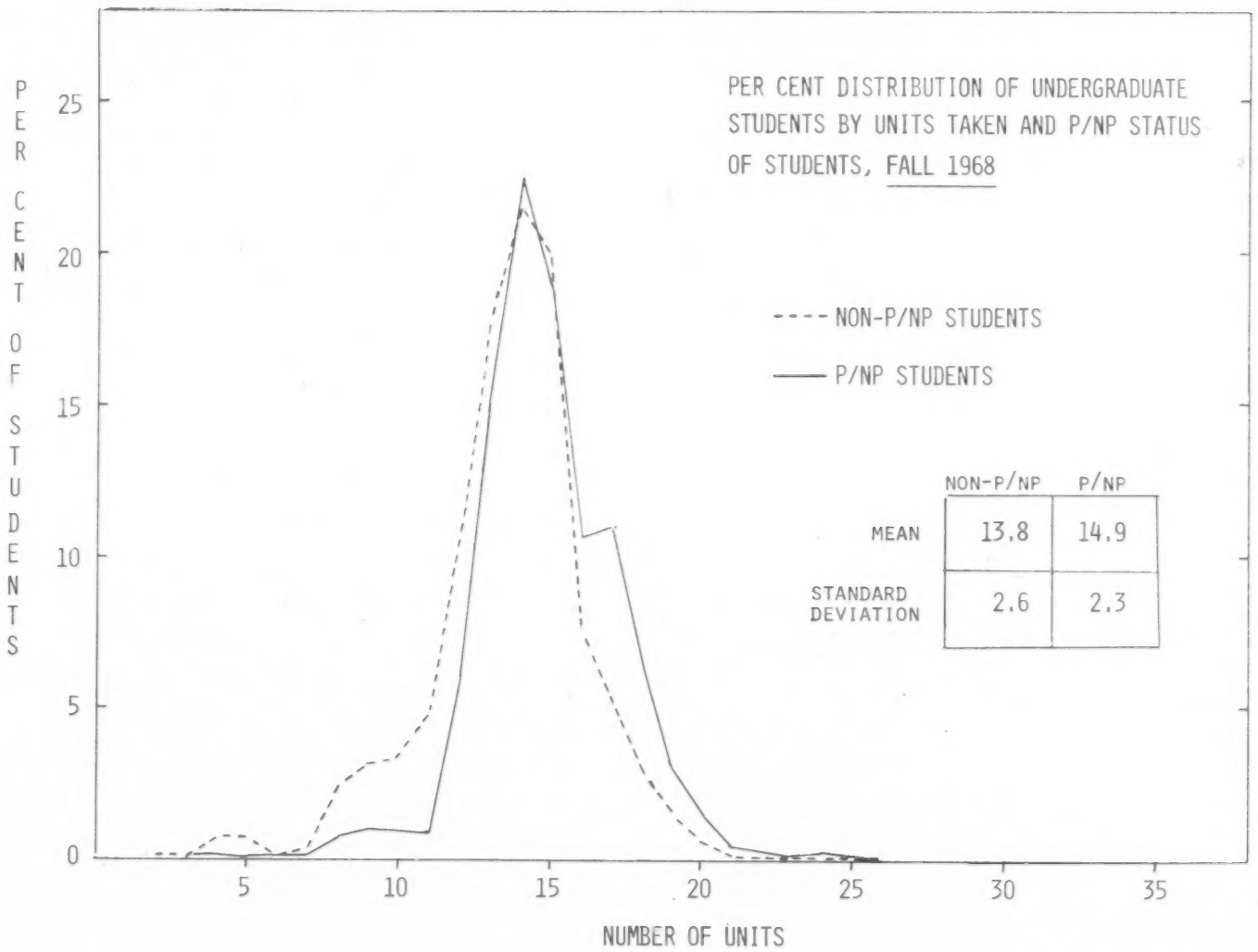
CHART E



	NON-P/NP	P/NP
MEAN	13.8	14.9
STANDARD DEVIATION	2.6	2.3

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CHART F

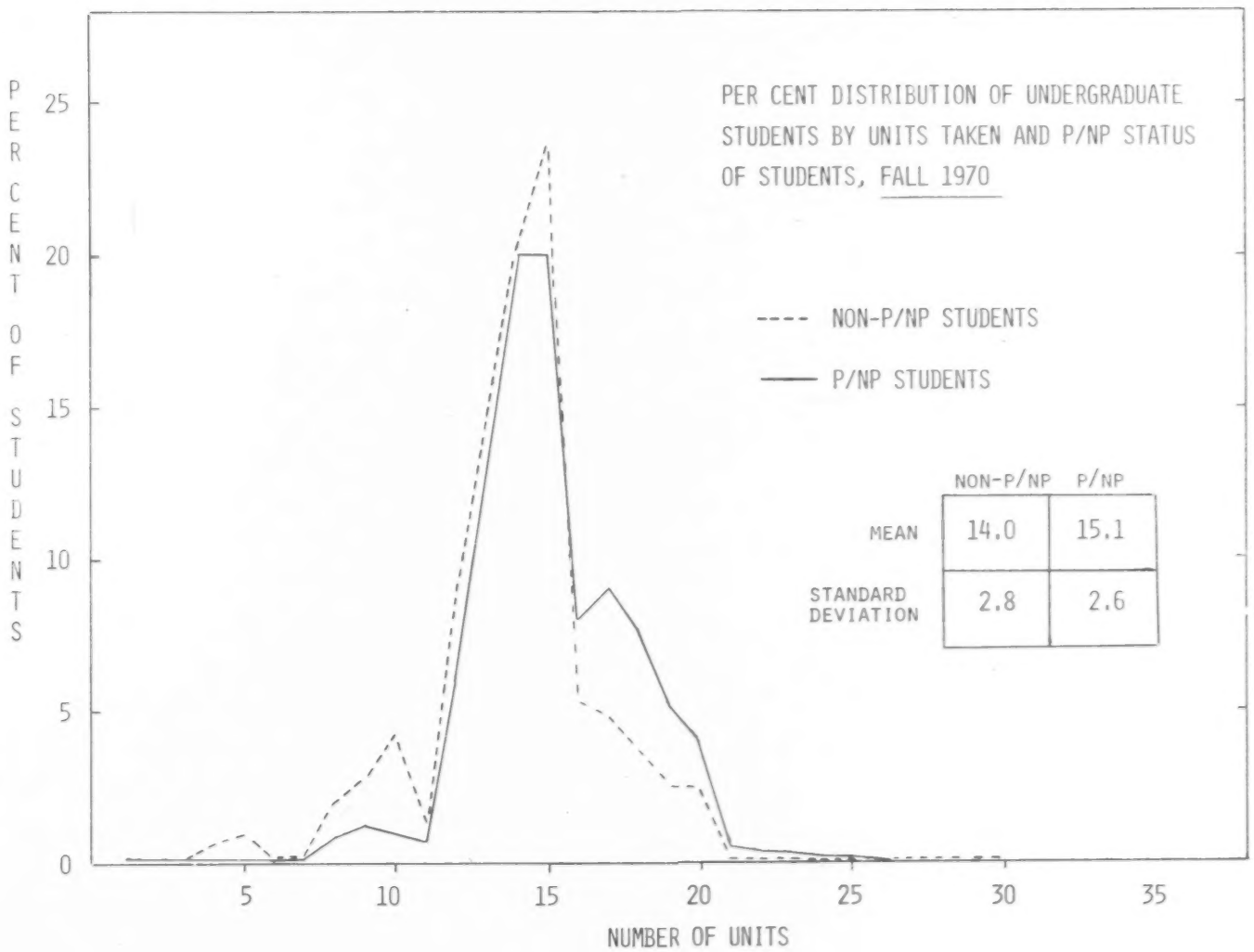

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CHART G

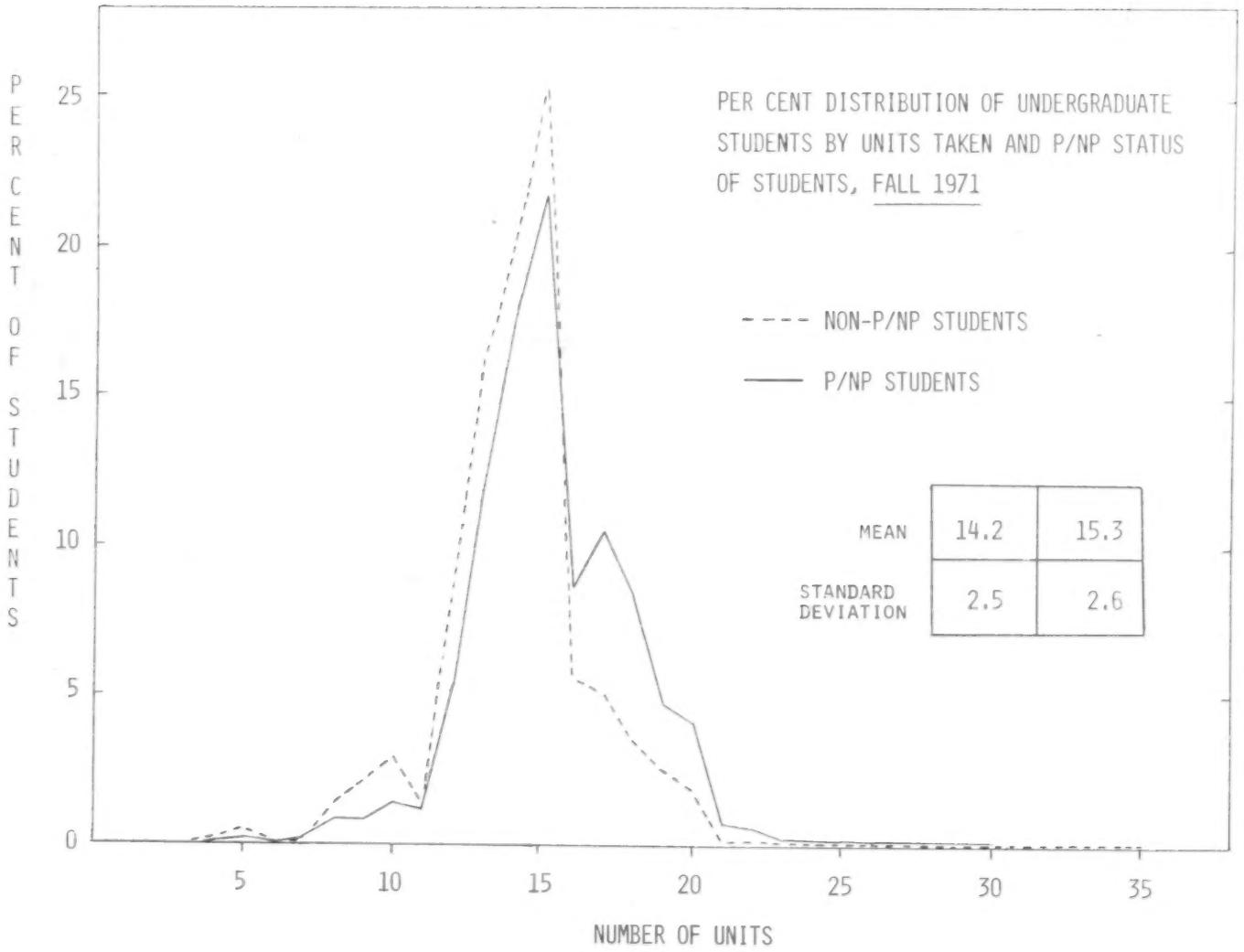

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Table 17

UNIT LOAD AND PASS/NOT PASS USE

Per Cent Distribution of Undergraduate Students by Units Taken in a Fall Quarter at Berkeley and Whether or Not the Student was Enrolled in a Pass/Not Pass Course†

Number of Units Taken	PER CENT OF UNDERGRADUATE STUDENTS					
	Fall 1968		Fall 1970		Fall 1971	
	P/NP Students	Non-P/NP Students	P/NP Students	Non-P/NP Students	P/NP Students	Non-P/NP Students
1 - 4.5	.13	.80	.09	.81	.04	.23
5 - 8.5	.87	3.49	1.06	3.33	1.11	2.21
9 - 12.5	8.99	18.27	9.56	17.42	8.84	15.88
13 - 16.5	67.29	66.44	61.80	64.19	60.20	67.89
17 - 20.5	22.10	10.66	25.80	13.65	27.85	13.33
21 - 24.5	.98	.31	1.41	.48	1.73	.32
25 - 28.5	.04	.04	.27	.09	.20	.13
29 - 32.5	-	-	-	.02	.04	-
33 - 35.0	-	-	-	-	-	.01
Number of Students	7,010	10,529	6,390	11,605	5,498	10,333

	Fall 1968	Fall 1970	Fall 1971	
17 or more units	23.1%	27.5%	29.8%	For P/NP Students
17 or more units	11.0%	14.2%	13.8%	For Non-P/NP Students
Less than 13 units	9.6%	10.7%	10.0%	For P/NP Students
Less than 13 units	22.6%	21.6%	18.3%	For Non-P/NP Students

†Excludes pass/not pass enrollment in independent study courses and selected physical education and music activity courses.

This conjecture loses some of its credibility when an examination is made of the students arranged by the several subject matter groups, for example, chemistry, engineering or social sciences (see Table 18). The uniformity of the higher unit load for almost every group of pass/not pass users compared to non-users makes acceptance of a different type of student less plausible. As was already noted, the small numerical difference in the mean unit value represents a sizable per cent difference. Since there is no means to determine what load these students would have carried had there not been a pass/not pass option, the question of basic differences between the users and non-users cannot be resolved. The important point is that the users are carrying heavier than normal workloads and the critical questions are whether this academic behavior is beneficial or detrimental to the quality of the students' performances and whether this behavior creates inequities in the faculty's ability to judge student performance.

The users of the pass/not pass option may benefit by acceleration toward completion of their degree program or other more limited time goal, assuming these are positive objectives for the students. They may gain, also, by acquiring a limited number of desired courses beyond the standard curricular boundaries established by each college and school. Although these extra courses can be acquired without the pass/not pass option, its use obviously makes such acquisition less difficult. While facts previously presented show that there has been no diminished scholastic performance of these students in courses taken for a regular letter grade, the facts also show that their performances in courses taken for pass/not pass grades are poorer in quality. One can only conjecture that the pass/not pass users may not gain as much from courses in which the option is used if these courses are added to their normal workload rather than being a part of it.

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Table 18

UNIT WORKLOAD BY SUBJECT

Means and Standard Deviations for the Number of Course Units Taken by Students Who Use the Pass/Not Pass Option and Those Who Do Not by Subject Areas at Berkeley

Subject Area of Student	Pass/Not Pass Student					
	MEANS			STANDARD DEVIATIONS		
	Fall 1968	Fall 1970	Fall 1971	Fall 1968	Fall 1970	Fall 1971
Agricultural Sciences	13.8	15.1	15.1	2.3	2.7	2.5
Chemistry	14.8	15.1	14.9	2.5	1.9	1.9
Engineering	15.3	15.1	15.3	1.9	2.2	2.3
Environmental Design	15.1	15.0	14.7	2.3	2.6	2.9
Ethnic Studies†	-	15.0	20.0	-	-	6.1
Professional Schools:	15.2	15.7	15.9	2.2	2.5	2.2
Business Administration	15.0	15.6	15.5	2.0	2.7	2.3
Criminology	16.1	14.8	16.3	2.6	2.6	2.2
Forestry & Conservation	14.0	15.4	14.5	1.4	1.4	3.0
Optometry	16.1	16.7	16.6	2.1	1.5	1.6
Letters and Science:	14.8	15.1	15.2	2.3	2.7	2.7
Biological Sciences	14.8	14.9	15.0	2.1	2.4	2.6
Humanities	14.9	15.5	15.4	2.5	2.8	2.7
Physical Sciences	14.6	14.5	14.9	2.3	2.7	2.6
Social Sciences	14.9	15.6	15.7	2.3	2.7	2.9
Lower Division	14.8	14.8	15.0	2.3	2.6	2.5
Total University	14.9	15.1	15.3	2.3	2.6	2.6

Subject Area of Student	Non-Pass/Not Pass Student					
	MEANS			STANDARD DEVIATIONS		
	Fall 1968	Fall 1970	Fall 1971	Fall 1968	Fall 1970	Fall 1971
Agricultural Sciences	13.1	13.3	13.9	2.8	2.9	2.6
Chemistry	13.8	13.5	13.9	2.4	2.4	2.4
Engineering	13.7	13.5	13.9	2.6	2.6	2.3
Environmental Design	13.6	13.6	13.8	2.6	2.7	2.4
Ethnic Studies†	-	-	13.7	-	-	1.7
Professional Schools:	14.5	14.4	14.8	2.2	2.4	1.9
Business Administration	14.2	14.6	14.7	1.7	2.2	1.8
Criminology	14.0	14.0	15.2	3.4	3.4	2.3
Forestry & Conservation	14.7	13.9	14.2	2.7	2.4	1.7
Optometry	15.5	14.5	15.0	2.0	2.1	1.9
Letters and Science:	13.7	14.0	14.2	2.6	2.9	2.6
Biological Sciences	13.7	13.7	14.1	2.5	2.8	2.3
Humanities	13.8	14.2	14.3	2.8	2.8	2.7
Physical Sciences	13.8	13.5	13.7	2.5	2.8	2.9
Social Sciences	14.1	14.5	14.7	2.5	2.9	2.6
Lower Division	13.6	13.9	14.0	2.6	2.8	2.5
Total University	13.8	14.0	14.2	2.6	2.8	2.5

†Figures not reliable due to small number of students.

Higher than average unit loads by pass/not pass users may be detrimental to non-users only if one assumes that some of the users would carry a minimumly acceptable full-time load of 12 units without the option, but appear to carry a standard load (15 units) or higher than standard load (16 or more units) with the option. Two hypothetical students enrolled in exactly the same program of courses in a given term and competing for grades may not have equivalent effective loads if one of them is using the option in one of the courses and is able to markedly reduce his effort therein and transfer the saved energy to the other courses. If these speculations have any merit then the latter student is using the system to his advantage and the other student is not and only the faculty can decide whether or not a real inequity exists.

SUMMARY

Faculty respondents to the survey distributed in the Spring of 1970 perceived the pass/not pass grading system as having moderately positive and moderately negative effects on the quality of student performance. In most responses, the majority thought that the students' performances did not differ much when they used the option compared to times when they did not. Among the minority percentage of faculty who gave strong positive or negative responses, a consistently larger percentage viewed the pass/not pass users as performing below standard.

Among the small number (about 42) of faculty who taught courses in which all students were graded pass/not pass, the opinion was generally positive concerning the benefits they gained from teaching such courses, but there were no strong indicators that the quality of student performance was better. The expectations of the Select Committee on Education that undergraduate survey lecture courses would be taught wholly pass/not pass has not been realized,

for, despite the positive reaction of faculty who have taught these courses, there has been no proliferation of such courses since the inception of the pass/not pass system in 1966, and the actual number of courses has remained consistently far below the potential.

Although the students had certain positive perceptions of improvements in the quality of their experiences in courses in which they elected to enroll for a pass/not pass grade, the broad consensus was that there were few important differences between these experiences and experiences in courses taken for a standard letter grade. To a moderate degree, the students saw improvements in their creativity, self-evaluation, experimentation with course material, instructor's attitude and learning. They considered the use of the grading option to be slightly detrimental to maintaining or improving their grade-point average, to working closely with their instructor, to obtaining written and oral evaluations by their instructor and to spending sufficient time at study.

Fairly high importance was given by the student respondents to electing the pass/not pass option in courses where their anticipated personal competence was uncertain and where they thought they would gain study time for other courses. On the other side, some importance for not electing to use the option was voiced by students who expected to seek admission to graduate work and who assumed that the pass grades compared to regular letter grades on their records would be detrimental to this expectation.

Empirical information taken from the records of all undergraduates enrolled at Berkeley in the fall terms of 1971 and 1970 and, in some instances, 1968, reveals that the quality question is ambiguous. On the one hand, the facts show that the better the cumulative recorded scholastic performances of the students the more inclined they are to enroll in courses for a pass/not pass

grade; that is, the evidence is contrary to the popular notion that pass-fail grading is a refuge for the incompetent. On the other hand, the user of this grading system slightly increases the probability of his failing the course, for the facts show that the user will earn more not pass grades and incomplete grades in courses taken for a pass/not pass grade than in courses taken for a letter grade.

There is considerable evidence that the undergraduate student who uses the pass/not pass option carries a larger course load than the student who is a non-user. While the same evidence does not resolve the question as to whether or not the user would have carried a larger load without the option, there is little doubt that the option makes it easier to do so. Two important questions arise from this fact of higher average course load per student. First, if both faculty and student observations are correct in noting a reduced level of performance in pass/not pass course work, does it matter if the persistent user of the option completes his undergraduate degree requirements with a substantial number of courses in which his work was only mediocre? Second, if during the same quarter, two students enrolled in a set of identical courses differ only in that one student is enrolled in one of the courses for a pass/not pass grade, does it matter if this student can reduce his effort in the pass/not pass course, without necessarily reducing his grade, in order to increase his effort in the other courses and thereby enhancing his opportunities for higher grades?

SECTION V

FACULTY AND STUDENT ATTITUDES TOWARD EXTENSION OF PASS/NOT PASS GRADING AND TOWARD GRADING IN GENERAL

FACULTY OPINION

At the opening of Section I, the observation was made that the faculty respondents to the Spring, 1970 survey had summarized their attitudes about the current pass/not pass system at Berkeley by giving it a moderately favorable vote. They were slightly more positive about the intended purposes of the system than they were about the manner in which it operated. In order to explore the faculty's interest in changing or extending the pass/not pass systems, they were asked to respond to nine hypothetical proposals. These proposals were introduced in the survey questionnaire by the following paragraph:

> At present, the pass/not pass option is open to qualified undergraduates. At the time of this writing, the Academic Senate has under consideration a plan to open the option to graduate students. Other colleges and universities have been experimenting with different forms of pass/not pass systems. Please give your opinion of the following statements, considering each

statement independently of the others. Unless otherwise stated in the sentence, each statement pertains to undergraduates.

The nine proposals are shown in detail in Table 19 together with the per cent distributions of the faculty responses based on a scale from strongly disagree to strongly agree.

Unlike many of the faculty survey items reported in preceding sections of this study, the set of nine items on possible changes in the grading system received a uniformly high response rate from the 244 faculty participants. This is not surprising, for while many of the survey questions may have required some special knowledge or some special experience, the nine proposals for grading system changes require only an opinion.

Over 75% of the respondents did not approve of any idea of extending the pass/not pass option either to all undergraduate courses or to all undergraduate and graduate courses collectively; and their disapproval was very evident for 55% to 59% of those disapproving strongly disagreed with these two proposals. But, while a less intense majority, 64% total with only 38% strongly disagreeing, did not approve of making all undergraduate non-major courses pass/not pass courses, only a bare majority, 54%, with 25% strongly disagreeing, objected to making all upper division non-major courses pass/not pass courses. These latter two responses by the faculty are sufficiently different to warrant their further consideration as to the benefits which might exist in requiring the use of pass/not pass grades in all courses taken by juniors and seniors in those fields outside of their own major field. Additionally, the faculty's almost fifty-fifty split on the proposal of using only pass/not pass grades in all breadth course requirements should be worthy of further consideration at the same time.

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Table 19

FACULTY ATTITUDES FOR GRADING SYSTEM CHANGES

Per Cent Distribution of Attitudes Expressed by a Sample of Berkeley Faculty (N-244) to Survey Items Which Presented Hypothetical Proposals for Extensions or Other Changes in the Pass/Not Pass Grading System

Statements of Change††	Number of Responses	Per Cent Response†			
		Strongly Disagree	Moderately Disagree	Moderately Agree	Strongly Agree
1) A marking system of Not Pass, Pass, Honor-Pass (to be used for students with outstanding work in a course) should be implemented.	240	25%	19%	32%	24%
2) A grade-point penalty should be attached to a Not Pass mark.	234	30%	19%	26%	25%
3) All breadth requirements should be taken on a pass/not pass basis.	243	24%	28%	27%	21%
4) All non-major courses during the upper division years should be taken on a pass/not pass basis.	244	25%	29%	27%	18%
5) A faculty member should be unaware of which students in his class are there on a pass/not pass basis; instead, a pass/not pass mark should be assigned by the Registrar based on grades submitted by each faculty member.	236	31%	22%	26%	20%

†May not add to 100% due to rounding.

††See text pages 90-91 for paragraph which instructed faculty on these survey items.

Table 19 (Continued)

FACULTY ATTITUDES FOR GRADING SYSTEM CHANGES

Statements of Change††	Number of Responses	Per Cent Response†			
		Strongly Disagree	Moderately Disagree	Moderately Agree	Strongly Agree
6) When the pass/not pass system began, a Pass mark was the equivalent of a D- or better grade. In 1968, this was changed to a D-letter grade or better. One recommendation for the pass/not pass grade equivalency has been to leave the equivalency to the professor's discretion. What is your opinion about this option?	240	28%	19%	22%	21%
7) All non-major courses during the entire undergraduate period should be taken on a pass not pass basis.	242	38%	26%	19%	17%
All undergraduate courses should be graded on a pass/not pass basis.	243	55%	23%	10%	12%
9) All graduate and undergraduate courses should be graded solely pass/not pass.	243	59%	20%	11%	11%

†May not add to 100% due to rounding.

††See text pages 90-91 for paragraph which instructed faculty on these survey items.

Perhaps the most interesting combination of responses by the faculty occurs in the first two items of Table 19. A simple majority, 56%, of the faculty favors changing the entire grading system to a three-value system of honors pass/pass/not pass (Item 1). Also a simple majority, 51%, would wish to see a grade-point penalty imposed upon students who earn not pass grades (Item 2). If the latter change were made, it certainly would remove one of the basic incentives of the current system in that even failure in a pass/not pass course has no effect on the student's overall scholastic average. If there is a consistency in the responses to those two different items, it must lie in the faculty's desire for more homogeneity in the grading system. A three-value system to replace the current five-value letter system has considerable merit in view of these facts: At least half of both the faculty and the students (see student responses in Part B of Table 20) favor a three-value grading system; present trends in grading in most departments of instruction, have reduced the grade of C to a minor role in evaluations of scholastic performance,[19] and, a uniform three-value grading system would retain many of the benefits while eliminating most of the inequities of the dual letter and pass/not pass grading systems now in operation at Berkeley.

More than half of the faculty respondents disagreed with two changes of a technical nature in the current pass/not pass system. They turned down a proposal (53% disagreed) to submit letter grades for all students without the faculty's previous knowledge as to which student had elected to be graded pass/not pass. The conversion from a letter grade to a pass/not pass grade would be made by the Registrar. Some institutions using a partial pass/not pass system follow this procedure in order to avoid unfair bias by the faculty which some students claim exists against those who use the option. The

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[19] *A Report of Scholarship Grades*, *op. cit.* p. 2.

other technical proposal would have left to the individual faculty member's discretion the letter grade equivalency for pass/not pass grades. Although 57% disagreed with the suggestion, the fact that the faculty knows which students are enrolled for a pass/not pass grade must have some influence on their grading behavior. Supporting this contention is the information noted in Section IV on differences in grades earned by students who use the option. It showed a higher probability for a student to be awarded a not pass grade rather than either a D or an F grade.

The final item on the faculty questionnaire stated: Please use this last page to amplify your opinion on the pass/not pass system, or to discuss any aspect of the system which you feel has been inadequately covered by this questionnaire.

A surprising proportion, 40% (97 out of 244), of the faculty respondents took the time to write comments. Some comments were quite lengthy, filling two sides of a sheet of paper. Anyone who has worked with unstructured information understands the difficulty of adequately portraying intentions of the various authors without great losses of the meaning of their thoughts and elegance of their styles. Direct quotations are helpful, but one must avoid biased selection and, particularly, avoid selection of statements which are very colorful but not intended for publication (see Appendix I for a sample of quotations).

Of the 97 statements, 39 were clearly positive or positive with suggestions for changes in the system through extensions, modifications, or wholesale replacement of the letter grade system. The remaining 58 statements, were either ambivalent about the uses or abuses of the pass/not pass system or they were entirely negative.

Several faculty thought that an honors pass/pass/not pass system for all undergraduates, all students, or only all graduate

students would be desirable. This simply reinforced the majority opinion (56%) given in response to the first item shown in Table 19. Somewhat along the same lines, a few faculty supported the idea of extending the current pass/not pass option to all courses, undergraduate and graduate; but their proposal differs from the large majority (79%) who disagree with such an extension (see item 9 in Table 19).

Perhaps a fourth of the faculty who gave written comments stated that the current pass/not pass system had their approval, but half of them went on in their remarks to qualify their support by suggesting some change. Their proposed changes included just about every combination of course level, student level and curricular arrangements conceivable, including all those possibilities given in the questionnaire.

More than a dozen respondents indicated that they were convinced that most students who used the option neglected part of their course work and, as a result, learned less. While some faculty were certain that the option prevented tensions about grades, others thought that the system actually increased grade consciousness among the students. Divisions of this nature were common among the comments and they show, perhaps more clearly than responses to structured questionnaires, the polarity of opinion on this whole issue of scholastic grading methods. One faculty member commends the pass/not pass option because he is convinced it promotes exploration of new course material and four others strongly assert that the option has not led to exploration.

A serious charge was made by one respondent that some students use the option to misrepresent the effective number of units carried each term; that is, he charged that these students were carrying a

light workload or, at least, one below minimum standards, while their records show a standard course unit load. This point was presented in Section IV in which the higher than average course unit load taken by pass/not pass users was noted and some of the implications of this fact discussed. While the respondent's opinion is not too different from opinions expressed about students neglecting their pass/not pass course work, the implication is different, for the student is not merely hurting himself by learning less when he does not do the work, rather, the respondent is saying that the student has gained an unfair advantage over others who carry standard loads of wholly letter-graded courses. If the charge is true, it would point out more than some other inequities, the dilemma of administering a grading structure composed of conflicting systems.

Other negative comments were made about the real or imagined defects of the current pass/not pass option: (a) Berkeley's experience to date is not a significant test of optional grading system; (b) the option is used to avoid some regulation or requirement; (c) it is used to get a gentlemen's C, (d) a pass grade on the student's records is a clear indication of weakness in that subject; (e) more discrimination is needed to measure scholastic performance, not less; (f) in group projects, students enrolled for a pass/not pass grade do not do their share of the course work.

STUDENT OPINION

As noted before in this study, there may appear to be some inconsistancies in student attitudes about the value of the pass/not pass grading system. This tentative finding is reinforced by responses students gave to two series of questions contained in the Winter survey of 1971 regarding their attitudes about grading in general and their opinions about continuing or extending the pass/not pass system in particular. The undergraduate respondents reacted negatively

to statements which posed positive attributes for letter grades. At the same time, when given the opportunity to agree with proposals for significant additions to the pass/not pass option, their reactions were not strongly positive. Indeed, when given the opportunity to agree with the proposal of having all undergraduate courses graded pass/not pass only, their reaction (weighted score) fell on the negative side of the neutral point in the scale (see Part B, table 20).

Letter grades, according to a majority of the students, are not adequate to record progress and performance, do not motivate one to seek out new material to learn, do not prepare one for competition after graduation, are not fair and accurate devices for selecting students for graduate school, financial awards and employment, and are not affirmations of educational accomplishment (see Part A, Table 20).

At the same time, a majority of the students were saying that they do not wish to have all undergraduate courses graded pass/not pass and they were unenthusiastically positive about making either all lower division or all graduate courses pass/not pass. The respondents reacted at about the same low positive level to most other extensions: making all non-major courses pass/not pass, allowing students to enroll in two-thirds rather than one-third of all their courses for a pass/not pass grade, establishing a new grading system of honors pass/pass/and not pass. Strong responses, however, were made by the students to items (1), (18) and (19) in Table 20. For example, all but 107 of the 1,198 students who answered the last item (19), "The pass/not pass option should be entirely discontinued," strongly disagreed by checking the low values of 1 and 2, and of these 986 had checked the value of 1, strongest disagreement. In relation to most of their other responses, this is an extreme position for the students. Even when they are given an

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Table 20

STUDENT ATTITUDES FOR GRADING SYSTEM CHANGES

Per Cent and Weighted Scores of Responses by a Sample of Undergraduate Students Regarding their Attitudes Toward Grading in General and Toward Hypothetical Proposed Extensions of the Pass/Not Pass Grading System at Berkeley

Survey Item	Number of Responses (Maximum 1,205)	SCALE							WEIGHTED SCORE
		Strongly Disagree			Neutral	Strongly Agree			
		1	2	3	4	5	6	7	
		PER			CENT				
(A) General Attitude Toward Grading:									
Written or oral evaluations by the instructor would provide more meaningful feedback than grades	1,202	3	4	3	11	15	27	37	6.6
If equitable provisions for transfers, graduate school and fellowships were made, a system of no grades should be established	1,190	5	6	7	14	10	20	38	5.3
Grades act as motivators to induce students to learn things they would not otherwise learn	1,197	23	17	14	16	14	12	5	3.4
Grades provide a reasonable and standard way of recording student progress and performance	1,204	20	22	19	16	13	7	2	3.1
The competition of grades prepares students for the competition they will meet after school	1,187	27	20	13	17	12	6	4	3.0
Students should have grades as an affirmation of accomplishment	1,200	30	21	15	14	11	6	2	2.8
Grades are a fair and accurate device for selecting students for graduate school, fellowships and awards, and transfer from other institutions, and employment	1,202	28	26	19	12	10	4	1	2.7
(B) Continuation and Extension of Pass/Not Pass Grading:									
The present option of pass/not pass allowing students to take up to one third of all courses as pass/not pass should be continued	1,198	5	4	6	14	11	20	40	5.4
All breadth requirements should be only pass/not pass courses	1,195	10	7	7	11	12	18	33	4.9
All graduate courses should be only pass/not pass	1,173	12	8	6	19	12	14	27	4.6

Table 20 (Continued)

STUDENT ATTITUDES FOR GRADING SYSTEM CHANGES

Survey Item	Number of Responses (Maximum 1,205)	SCALE							WEIGHTED SCORE
		Strongly Disagree			Neutral	Strongly Agree			
		1	2	3	4	5	6	7	
		PER CENT							
(B) Continuation and Extension of Pass/Not Pass Grading: (Continued)									
All non-major courses during the upper division period should be only pass/not pass	1,196	11	9	10	16	15	14	25	4.6
A grading system of Not pass, Pass, and Honors should be established	1,189	14	7	7	17	14	14	25	4.5
Faculty should not know which students are taking courses for pass/not pass	1,183	11	7	6	29	10	14	23	4.5
The pass/not pass option should be extended to two thirds of all courses	1,198	13	10	8	19	14	14	22	4.4
All non-major courses during the entire undergraduate period should be only pass/not pass courses	1,196	14	10	11	16	13	13	23	4.3
All lower division courses should be only pass/not pass courses	1,199	17	12	10	13	10	12	25	4.2
All courses during the undergraduate period should be only pass/not pass	1,195	24	13	11	15	8	7	21	3.8
A grade point penalty should be attached to a Not Pass mark	1,188	52	15	8	11	5	5	4	2.3
The pass/not pass option should be entirely discontinued	1,198	82	9	3	2	0	1	2	1.4

opportunity to confirm their desire to see the option continued, only 475 had checked the extreme positive value of 7.

There is a pattern to the student responses which, when laid out, dispels any thought of inconsistent behavior. First, most but not all of the students are dissatisfied with the letter-grade system; second, the value the pass/not pass option in its present form as a relief from the letter grade system; third, extensions of the pass/not pass option are not viewed by the students as really significant improvements; and, lastly, the students are implying that they want something else.

That something else could be a "no" grade system. The highest weighted score (6.6) of any survey item was given by the students to survey item (1) in Table 20 which stated that "written and oral evaluations by the instructor would provide more meaningful feedback than grades." Additionally a relatively high score (5.3) was obtained when students agreed that a system of "no grades" should be established if equitable provisions for transfers, graduate school and fellowships were made available.

These responses to survey items are reinforced by the individual comments made by about one out of every six students who took the time to write some remarks to the last question, "Do you have any other comments or suggestions about Pass/Not Pass grading at Berkeley?" At least half of the written comments were directed at grading in general rather than specifically at pass/not pass grading. One-quarter of the writers stated in one form or another that all grades are bad, including the comment that "grades make students sick enough to faint."

As with the faculty written comments, the students' comments add valuable background which can rarely be fully obtained through

mailed questionnaire techniques (See Appendix J for sample quotations). In the summary of the student remarks which follows, the number of students who agree with a particular statement are very few, with these exceptions: first, as already noted, roughly 25% of the (176) writers stated that grades were of no value, and, second, another roughly 25% thought that the current pass/not pass system was helpful to them in one form or another.

SUMMARY EXTRACTIONS OF STUDENT WRITTEN COMMENTS:

Grades are bad because they--(a) stifle student academic interests (b) inhibit rather than promote learning (c) create severe tensions among many students (d) cause cheating on examinations.

It is not grades but--(a) instructors who stifle productivity (b) varying competition among different groups of student, e.g., sciences versus humanities (c) large lectures which prevent adequate teacher evaluation (d) arbitrary work assignments by teacher with no opportunity for students to assist at outset in setting course goals.

Grades are good (or are needed) because they--(a) are necessary for entrance to graduate work (b) create a useful degree of incentive (c) best thing short of teacher evaluation.

Grades should be eliminated and replaced with--(a) teacher evaluations (perhaps Santa Cruz system) (b) another method to judge potential ability for graduate work (c) standard tests for entrance to graduate work.

The current Pass/Not Pass option is good in that it--(a) is helpful, but not enough to be a sufficient correction of the essentially harmful letter grading system with which it is combined (b) is a relief from the competitive tension of letter grades (c) increases exploratory approach to courses, course content and other academic interest (d) allows a student to carry more units.

The current Pass/Not Pass option is inadequate in that it--(a) has the stigma of an "easy way out" (b) does not permit students to take all non-major courses on the option (c) is not practical for the student who intends to pursue graduate work or medical studies (d) does not represent an actual relief from the use of grade-point average determinations (e) does not permit one to change to a letter grade late in term or vice-versa (f) is used by some students simply to enhance their grade-point average (g) should be extended to major requirements so that students can use the option more fully (h) exists primarily at the post secondary level and some students are not prepared to use the option when they first arrive at the university (i) leaves student in doubt as to how well he or she is performing (j) is a stigma since instructors are not interested in teaching students enrolled for the pass/not pass option (k) treats the grade of D as a failing grade instead of barely passing (l) should carry no penalty, that is, the not pass grade should be eliminated altogether.

The pass/not pass option could be enhanced, or replaced, by--(a) extending it to all courses, (b) an honors pass/pass/not pass system (c) extending to all courses but with letter-grade option, (d) extending it to more courses in the major (e) initiating the use of the option starting in the earliest years of primary education (f) the addition of teacher evaluations of student performances (g) not allowing the instructor to know who is taking the option (h) extending it to all upper division non-major courses (i) requiring the instructor to grade all of the course work during the term on a pass/not pass basis or permitting student to choose either the letter-grade option or the pass/not pass option at the end of the term (j) automatically assigning a P grade to anyone using the option.

SUMMARY

While masking some borderline responses, a fair summary of faculty and student responses to proposals for extending the pass/not pass option to more courses or all courses is that the faculty were slightly to decidedly negative, and the students were moderately positive. A rare point of mutual agreement, but not one of high enthusiasm, is the majority opinion among both faculty and students that a uniform grading system of honors pass/pass/not pass grading to replace the current dual letter and pass/not pass grading system should be instituted. An interesting contrast in attitude appears in the responses to the proposal that a grade-point penalty be attached to a not pass mark, that is a simple majority (51%) of the faculty approved of this change while a sizeable majority (75%) of the students disapproved.

Other strong responses by the students indicated they do not want the university to discontinue the current limited pass/not pass option unless the university were willing to eliminate grades altogether and institute either written or oral evaluations by the faculty for judging student performance. Whether or not written or oral evaluations are the answer, the students supported the idea of eliminating grades if some type of equitable method could be established for judging which students are most deserving for admission to graduate school and for receiving awards or fellowships, and for indicating to transfer schools the relative standing of the transferee.

The intensity of feeling among both faculty and students on both sides of the grades versus no-grades issue is most clearly seen in their written comments given at the end of the survey instruments. Although the numerous questionnaire items reviewed in this section and in preceding sections reveal much polarity for both groups, only

their written comments can reveal the surprising bitterness that some on one side of the issue feel toward those on the other side. Fortunately, the vast majority of faculty and students are able to approach this basic academic problem with a sense of balance between the obvious need for some kind of evaluation and the equally compelling need to reevaluate a grading system born in a different era of different social values.

APPENDICES

APPENDIX A

Number and Per Cent of Pass/Not Pass Student and Course Enrollments

at Berkeley Arranged by Selected Groups

FALL 1968

Selected Groups	STUDENT ENROLLMENTS			COURSE ENROLLMENTS		
	Total Students	Total Students Taking Pass/Not Pass Courses		Total Course Enrollments	Total Pass/Not Pass Course Enrollments	
	N	N	Per Cent	N	N	Per Cent
Class						
Freshmen	3,589	937	26.1	11,553	938	8.1
Sophomore	3,643	1,727	47.4	12,178	1,729	14.2
Junior	5,860	2,501	42.7	19,508	2,504	12.8
Senior	4,266	1,792	42.0	14,217	1,798	12.4
TOTAL*	17,539	7,010	40.0	58,016	7,022	12.1
Sex						
Male	10,113	3,589	35.5	33,875	3,597	10.6
Female	7,426	3,421	46.1	24,141	3,425	14.2
TOTAL*	17,539	7,010	40.0	58,016	7,022	12.1
Enrollment Status						
New	4,237	1,103	26.0	13,673	1,107	8.1
Continuing	12,571	5,654	45.0	42,049	5,660	13.5
Returning	729	251	34.4	2,288	253	11.1
TOTAL*	17,539	7,010	40.0	58,016	7,022	12.1

*Included in the totals, but not shown in the table, are some students whose class level is either a special or limited matriculation and some students whose class and/or sex and/or status was not recorded.

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APPENDIX A - continued

Number and Per Cent of Pass/Not Pass Student and Course Enrollments

at Berkeley Arranged by Selected Groups

FALL 1970

Selected Groups	STUDENT ENROLLMENTS			COURSE ENROLLMENTS		
	Total Students	Total Students Taking Pass/Not Pass Courses		Total Course Enrollments	Total Pass/Not Pass Course Enrollments	
	N	N	Per Cent	N	N	Per Cent
Class						
Freshmen	4,205	1,236	29.4	13,473	1,316	9.8
Sophomore	3,386	1,355	40.0	11,367	1,476	13.0
Junior	6,034	2,188	36.3	20,188	2,363	11.7
Senior	4,203	1,579	37.6	13,819	1,681	12.7
TOTAL*	17,995	6,390	35.5	59,314	6,867	11.6
Sex						
Male	10,852	3,647	33.6	35,989	3,885	10.8
Female	7,141	2,742	38.4	23,317	2,981	12.8
TOTAL*	17,995	6,390	35.5	59,314	6,867	11.6
Enrollment Status						
New	4,995	1,328	26.6	15,994	1,399	8.8
Continuing	12,002	4,714	39.3	40,125	5,090	12.7
Returning	998	348	34.9	3,195	378	11.8
TOTAL*	17,995	6,390	35.5	59,314	6,867	11.6

*Included in the totals, but not shown in the table, are some students whose class level is either a special or limited matriculation and some students whose class and/or sex and/or status was not recorded.

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APPENDIX A - continued

Number and Per Cent of Pass/Not Pass Student and Course Enrollments

at Berkeley Arranged by Selected Groups

FALL 1971

Selected Groups	STUDENT ENROLLMENTS			COURSE ENROLLMENTS		
	Total Students	Total Students Taking Pass/Not Pass Courses		Total Course Enrollments	Total Pass/Not Pass Course Enrollments	
	N	N	Per Cent	N	N	Per Cent
Class						
Freshmen	3,469	894	25.8	11,238	997	8.9
Sophomore	3,276	1,250	38.7	11,149	1,428	12.8
Junior	5,633	2,034	36.1	18,986	2,316	12.2
Senior	3,323	1,266	38.1	11,263	1,556	13.8
TOTAL*	15,828	5,496	34.7	53,062	6,365	12.0
Sex						
Male	9,697	3,134	32.3	32,827	3,624	11.0
Female	6,126	2,360	38.5	20,218	2,738	13.5
TOTAL*	15,828	5,496	34.7	53,062	6,365	12.0
Enrollment Status						
New	4,551	1,157	25.4	14,756	1,267	8.6
Continuing	10,551	4,120	39.0	35,950	4,845	13.5
Returning	724	219	30.2	2,350	253	10.8
TOTAL*	15,828	5,496	34.7	53,062	6,365	12.0

*Included in the totals, but not shown in the table, are some students whose class level is either a special or limited matriculation and some students whose class and/or sex and/or status was not recorded.

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APPENDIX B

Per Cent of Course Enrollments Which Were Graded Pass/Not Pass--

New, Continuing, and Returning Undergraduate Students

by Class at Berkeley

Enrollment Status	Total Number of Course Enrollments	PER CENT OF TOTAL ENROLLMENTS GRADED PASS/NOT PASS					
		CLASS					
		Freshmen	Sophomore	Junior	Senior	Other/ Unknown	Total
FALL 1968							
New	13,673	6	12	10	7	1	8
Continuing	42,049	12	15	14	13	11	13
Returning	2,288	5	12	11	12	9	11
TOTAL*	58,016	8	14	13	13	9	12
FALL 1970							
New	15,994	8	10	9	7	4	9
Continuing	40,125	12	13	13	12	9	13
Returning	3,195	10	14	13	10	4	12
TOTAL*	59,314	10	13	12	12	7	11
FALL 1971							
New	14,756	8	11	9	8	16	8
Continuing	35,950	11	13	13	14	17	13
Returning	2,350	7	11	11	11	10	11
TOTAL*	53,062	9	13	12	14	16	12

*Totals include 6 enrollments for whom no status identification was made.

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APPENDIX C

Number and Per Cent of Undergraduate Students Among all Undergraduate Students Who Enrolled for Pass/Not Pass Grades and Number and Per Cent of Course Enrollments Among all Course Enrollments These Students Created at Berkeley

--Students Arranged by Major Field of Study--

FALL 1968

Students by Major Field of Study	STUDENT ENROLLMENT			COURSE ENROLLMENTS		
	Total Students in the Major	Total Students Taking Courses for a Pass/Not Pass Grade		Total Course Enrollments	Total Pass/Not Pass Course Enrollments	
	N	N	Per Cent	N	N	Per Cent
Agricultural Sciences	220	58	26.4	700	58	8.3
Chemistry	386	112	29.0	1,404	113	8.0
Engineering	1,277	471	36.9	4,737	472	10.0
Environmental Design	819	274	33.5	2,921	276	9.4
Ethnic Studies	-	-	-	-	-	-
Professional Schools	(811)	(241)	(29.7)	(2,748)	(241)	(8.8)
Business Administration	480	175	36.5	1,479	175	11.8
Criminology	105	31	29.5	375	31	8.3
Forestry & Conservation	75	5	6.7	270	5	1.8
Optometry	151	30	19.9	624	30	4.8
Letters & Science	(14,026)	(5,854)	(41.7)	(45,506)	(5,862)	(12.9)
Biological Sciences	731	250	34.2	2,416	250	10.3
Humanities	2,120	1,000	47.2	6,967	1,005	14.4
Physical Sciences	689	316	45.9	2,468	316	12.8
Social Sciences	3,648	1,706	46.8	11,526	1,707	14.8
Unclassified/ Lower Division	6,838	2,582	37.8	22,129	2,584	11.7
TOTAL	17,539	7,010	40.0	58,016	7,022	12.1

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APPENDIX C - continued

Number and Per Cent of Undergraduate Students Among all Undergraduate Students Who Enrolled for Pass/Not Pass Grades and Number and Per Cent of Course Enrollments Among all Course Enrollments These Students Created at Berkeley

--Students Arranged by Major Field of Study--

FALL 1970

Students by Major Field of Study	STUDENT ENROLLMENT			COURSE ENROLLMENTS		
	Total Students in the Major	Total Students Taking Courses for a Pass/Not Pass Grade		Total Course Enrollments	Total Pass/Not Pass Course Enrollment	
	N	N	Per Cent	N	N	Per Cent
Agricultural Sciences	358	112	31.3	1,194	124	10.4
Chemistry	370	102	27.6	1,323	107	8.1
Engineering	1,354	496	36.6	4,988	500	10.0
Environmental Design	718	198	27.6	2,394	212	8.9
Ethnic Studies	1	1	100.0	3	1	33.3
Professional Schools	(940)	(311)	(33.1)	(3,185)	(361)	(10.1)
Business Administration	519	189	36.4	1,684	191	11.8
Criminology	133	50	37.6	456	55	12.1
Forestry & Conservation	94	11	11.7	324	11	3.4
Optometry	194	61	31.4	781	64	8.2
Letters & Science	(14,254)	(5,170)	(36.3)	(46,227)	(5,602)	(12.1)
Biological Sciences	754	224	29.7	2,516	236	9.4
Humanities	1,761	643	36.5	5,766	697	12.1
Physical Sciences	631	253	40.1	2,155	277	12.8
Social Sciences	3,600	1,408	39.1	11,533	1,523	13.2
Unclassified/ Lower Division	7,508	2,642	35.2	24,257	2,869	11.8
TOTAL	17,995	6,390	35.5	59,314	6,867	11.6

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APPENDIX C - continued

Number and Per Cent of Undergraduate Students Among all Undergraduate Students Who Enrolled for Pass/Not Pass Grades and Number and Per Cent of Course Enrollments Among all Course Enrollments These Students Created at Berkeley

--Students Arranged by Major Field of Study--

FALL 1971

Students by Major Field of Study	STUDENT ENROLLMENT			COURSE ENROLLMENTS		
	Total Students in the Major	Total Students Taking Courses for a Pass/Not Pass Grade		Total Course Enrollments	Total Pass/Not Pass Course Enrollments	
	N	N	Per Cent	N	N	Per Cent
Agricultural Sciences	473	147	31.1	1,641	168	10.2
Chemistry	346	82	23.7	1,206	89	7.4
Engineering	1,258	394	31.3	4,764	431	9.0
Environmental Design	546	131	24.0	1,815	146	8.0
Ethnic Studies	11	4	36.4	36	7	19.4
Professional Schools	(826)	(276)	(33.4)	(2,838)	(375)	(13.2)
Business Administration	436	138	31.6	1,380	140	10.1
Criminology	110	29	26.4	349	33	9.5
Forestry & Conservation	78	16	20.5	278	18	6.5
Optometry	202	93	46.0	831	184	22.1
Letters & Science	(12,368)	(4,462)	(36.0)	(40,762)	(5,149)	(12.6)
Biological Sciences	833	275	33.0	2,937	321	10.9
Humanities	1,493	594	39.8	4,949	71[illegible]	14.4
Physical Sciences	504	193	38.3	1,773	232	13.1
Social Sciences	3,215	1,283	39.9	10,401	1,496	14.4
Unclassified/ Lower Division	6,323	2,117	33.5	20,702	2,385	11.5
TOTAL	15,828	5,496	34.7	53,062	6,365	12.0

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APPENDIX D

Number and Per Cent of Pass/Not Pass Enrollments
Taken by Undergraduate Students in the Berkeley Departments of Instruction
Arranged by Subject Areas--Lower, Upper, and Graduate Division Course Levels

FALL 1968

Departments of Instruction by Subject Areas	Divisional Course Levels	Total Course Enrollments	Number of Pass/Not Pass Course Enrollments	Per Cent of Pass/Not Pass Course Enrollments
Agricultural Sciences	Lower	742	293	39.5
	Upper	358	5	1.4
	Graduate	1	-	-
	TOTAL	1,101	298	27.1
Chemistry	Lower	2,047	54	2.6
	Upper	523	1	.2
	Graduate	10	-	-
	TOTAL	2,580	55	2.1
Engineering	Lower	581	10	1.7
	Upper	2,247	82	3.6
	Graduate	10	1	10.0
	TOTAL	2,838	93	3.3
Environmental Design	Lower	684	40	5.8
	Upper	1,180	50	4.2
	Graduate	491	7	1.4
	TOTAL	2,355	97	4.1
Ethnic Studies	Lower	-	-	-
	Upper	-	-	-
	Graduate	-	-	-
	TOTAL	-	-	-

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continued

APPENDIX D - continued

FALL 1968

Departments of Instruction by Subject Areas	Divisional Course Levels	Total Course Enrollments	Number Pass/Not Pass Course Enrollments	Per Cent of Pass/Not Pass Course Enrollments
Professional Schools	Lower	364	41	11.3
	Upper	2,623	221	8.4
	Graduate	29	-	-
	TOTAL	3,016	262	8.7
Letters & Science	Lower	24,661	3,578	14.5
	Upper	21,288	2,630	12.3
	Graduate	177	9	5.1
	TOTAL	46,126	6,217	13.5
Biological Sciences	Lower	1,605	356	22.2
	Upper	1,789	53	3.0
	Graduate	32	3	9.4
	TOTAL	3,426	412	12.0
Humanities	Lower	11,911	1,029	8.6
	Upper	5,887	694	11.8
	Graduate	19	1	5.3
	TOTAL	17,817	1,724	9.7
Physical Sciences	Lower	5,780	906	15.7
	Upper	2,011	91	4.5
	Graduate	63	1	1.6
	TOTAL	7,854	998	12.7
Social Sciences	Lower	5,075	1,168	23.0
	Upper	10,866	1,513	13.9
	Graduate	63	4	6.3
	TOTAL	16,004	2,685	16.8

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continued

APPENDIX D - continued

FALL 1968

Departments of Instruction by Subject Areas	Divisional Course Levels	Total Course Enrollments	Number Pass/Not Pass Course Enrollments	Per Cent of Pass/Not Pass Course Enrollments
Other	Lower	290	119	41.0
	Upper	735	279	38.0
	Graduate	-	-	-
	TOTAL	1,025	398	38.8
TOTAL	Lower	29,079	4,016	13.8
	Upper	28,219	2,989	10.6
	Graduate	718	17	2.4
	TOTAL	58,016	7,022	12.1

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APPENDIX D

Number and Per Cent of Pass/Not Pass Enrollments
Taken by Undergraduate Students in the Berkeley Departments of Instruction
Arranged by Subject Areas--Lower, Upper, and Graduate Division Course Levels

FALL 1970

Departments of Instruction by Subject Areas	Divisional Course Levels	Total Course Enrollments	Number of Pass/Not Pass Course Enrollments	Per Cent of Pass/Not Pass Course Enrollments
Agricultural Sciences	Lower	52	7	13.5
	Upper	420	26	6.2
	Graduate	5	-	-
	TOTAL	477	33	6.9
Chemistry	Lower	2,239	54	2.4
	Upper	559	7	1.2
	Graduate	8	-	-
	TOTAL	2,806	61	2.2
Engineering	Lower	654	17	2.6
	Upper	2,265	98	4.3
	Graduate	24	-	-
	TOTAL	2,943	115	3.9
Environmental Design	Lower	369	14	3.8
	Upper	1,361	81	5.9
	Graduate	204	4	2.0
	TOTAL	1,934	99	5.1
Ethnic Studies	Lower	718	201	28.0
	Upper	817	77	9.4
	Graduate	2	-	-
	TOTAL	1,537	278	18.1

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continued

APPENDIX D - continued

FALL 1970

Departments of Instruction by Subject Areas	Divisional Course Levels	Total Course Enrollments	Number of Pass/Not Pass Course Enrollments	Per Cent of Pass/Not Pass Course Enrollments
Professional Schools	Lower	536	56	10.4
	Upper	4,499	874	19.4
	Graduate	67	6	9.0
	TOTAL	5,102	936	18.3
Letters & Science	Lower	20,199	2,776	13.7
	Upper	24,037	2,542	10.5
	Graduate	279	27	9.6
	TOTAL	44,515	5,345	12.0
Biological Sciences	Lower	1,385	289	20.9
	Upper	2,053	120	5.8
	Graduate	69	9	13.0
	TOTAL	3,507	418	11.9
Humanities	Lower	8,560	1,232	14.4
	Upper	6,888	809	11.7
	Graduate	49	2	4.1
	TOTAL	15,497	2,043	13.2
Physical Sciences	Lower	5,025	432	8.6
	Upper	2,286	160	7.0
	Graduate	93	13	14.0
	TOTAL	7,404	605	8.2
Social Sciences	Lower	4,463	728	16.3
	Upper	12,719	1,444	11.3
	Graduate	68	3	4.4
	TOTAL	17,250	2,175	12.6

Office of Institutional Research
University of California, Berkeley
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continued

APPENDIX D - continued

FALL 1970

Departments of Instruction by Subject Areas	Divisional Course Levels	Total Course Enrollments	Number of Pass/Not Pass Course Enrollments	Per Cent of Pass/Not Pass Course Enrollments
Other	Lower	766	95	12.4
	Upper	91	9	9.9
	Graduate	-	-	-
	TOTAL	857	104	12.1
TOTAL	Lower	24,767	3,125	12.6
	Upper	33,958	3,705	10.9
	Graduate	589	37	6.3
	TOTAL	59,314	6,867	11.6

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APPENDIX D

Number and Per Cent of Pass/Not Pass Enrollments
Taken by Undergraduate Students in the Berkeley Departments of Instruction
Arranged by Subject Areas--Lower, Upper, and Graduate Division Course Levels

FALL 1971

Departments of Instruction by Subject Areas	Divisional Course Levels	Total Course Enrollments	Number of Pass/Not Pass Course Enrollments	Per Cent of Pass/Not Pass Course Enrollments
Agricultural Sciences	Lower	101	39	38.6
	Upper	590	39	6.6
	Graduate	2	-	-
	TOTAL	693	78	11.3
Chemistry	Lower	2,538	50	2.0
	Upper	475	9	1.9
	Graduate	7	1	14.3
	TOTAL	3,020	60	2.0
Engineering	Lower	649	15	2.3
	Upper	2,108	56	2.7
	Graduate	34	7	20.6
	TOTAL	2,791	78	2.8
Environmental Design	Lower	374	4	1.1
	Upper	1,033	64	6.2
	Graduate	41	-	-
	TOTAL	1,448	68	4.7
Ethnic Studies	Lower	426	110	25.8
	Upper	703	62	8.8
	Graduate	-	-	-
	TOTAL	1,129	172	15.2

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continued

APPENDIX D - continued

FALL 1971

Departments of Instruction by Subject Areas	Divisional Course Levels	Total Course Enrollments	Number of Pass/Not Pass Course Enrollments	Per Cent of Pass/Not Pass Course Enrollments
Professional Schools	Lower	516	58	11.2
	Upper	4,358	1,016	23.3
	Graduate	49	5	10.2
	TOTAL	4,923	1,079	21.9
Letters & Science	Lower	18,384	2,334	12.7
	Upper	20,441	2,437	11.9
	Graduate	233	23	9.9
	TOTAL	39,058	4,830	12.4
Biological Sciences	Lower	1,363	215	15.8
	Upper	2,337	140	6.0
	Graduate	57	6	10.5
	TOTAL	3,757	361	9.6
Humanities	Lower	7,103	1,123	15.8
	Upper	5,786	978	16.9
	Graduate	25	-	-
	TOTAL	12,914	2,101	16.3
Physical Sciences	Lower	5,285	408	7.7
	Upper	1,894	119	6.3
	Graduate	96	14	14.6
	TOTAL	7,275	541	7.4
Social Sciences	Lower	3,823	515	13.5
	Upper	10,136	1,202	11.9
	Graduate	52	2	3.8
	TOTAL	14,011	1,719	12.3

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continued

APPENDIX D - continued

FALL 1971

Departments of Instruction by Subject Areas	Divisional Course Levels	Total Course Enrollments	Number of Pass/Not Pass Course Enrollments	Per Cent of Pass/Not Pass Course Enrollments
Other	Lower	810	73	9.0
	Upper	288	34	11.8
	Graduate	3	1	33.3
	TOTAL	1,101	108	9.8
TOTAL	Lower	22,988	2,610	11.3
	Upper	29,708	3,719	12.5
	Graduate	366	36	9.8
	TOTAL	53,062	6,365	12.0

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APPENDIX E - SUMMARY

THREE TERM AVERAGES--FALL QUARTERS 1968, 1970, 1971

Per Cent Distributions of Pass/Not Pass Course Enrollments Created by Undergraduate Students
Arranged by their Major Field of Study in the Departments of Instruction at Berkeley Arranged by Subject Areas

Students by Major Field of Study	Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Agricultural Sciences	13.7	4.0	1.1	.6	2.0	10.5	68.1	13.0	18.1	9.2	30.6	1.9
Chemistry	.9	1.6	1.0	1.3	4.3	1.9	88.9	3.4	47.3	6.5	30.7	.9
Engineering	.1	.3	10.9	1.2	3.7	3.4	73.4	1.7	16.2	8.1	41.8	.8
Environmental Design	.5	.2	6.2	14.8	1.7	9.3	67.2	3.8	20.4	10.1	27.2	5.6
Ethnic Studies	-	-	-	-	57.1	-	42.9	-	-	-	42.9	-
Professional Schools	.5	.1	.1	.2	1.0	32.8	65.2	6.3	17.3	8.1	32.0	1.5
Letters & Science	2.0	.9	.3	.9	2.2	11.0	82.7	6.2	31.3	10.9	31.1	3.2
Biological Sciences	2.6	1.9	.4	.8	2.3	7.2	84.9	15.7	24.6	6.1	34.7	3.4
Humanities	1.7	.2	.1	1.5	.9	10.1	85.5	4.5	42.5	7.2	28.6	2.7
Physical Sciences	1.5	.5	1.8	.2	1.7	8.5	85.8	4.3	31.3	17.7	31.1	11.4
Social Sciences	1.6	.5	.3	1.2	1.0	16.0	79.3	4.0	28.9	9.9	34.3	3.2
Other	2.3	1.2	.3	.6	3.2	9.0	83.4	7.0	30.3	12.5	29.4	4.2
TOTAL	2.0	.9	1.4	1.3	2.2	11.4	80.8	5.9	29.1	10.5	32.3	3.0

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APPENDIX E - DETAIL

(Pass/Not Pass Students)

Total Pass/Not Pass Enrollments Created by Undergraduate Students Arranged by Their Major Field of Study

(1) Per Cent Distributions of Pass/Not Pass Enrollments by Divisional Course Levels

(2) Number of Pass/Not Pass Enrollments.

(3) Per Cent Distribution of Pass/Not Pass Enrollments in the Departments of Instruction at Berkeley Arranged by Subject Areas

FALL 1968

Students by Major Field of Study	(1) Per Cent by Course Level			(2) Number of P/NP Enrollment	(3) Per Cent by Departments of Instruction Arranged by Subject Area											
	Lower	Upper	Graduate		Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Agricultural Sciences	50.0	50.0	-	58	12.1	1.7	-	-	-	3.4	82.8	10.3	17.2	6.9	50.0	-
Chemistry	67.3	32.7	-	113	1.8	.9	-	.9	-	.9	96.6	1.8	44.2	8.0	39.8	1.8
Engineering	46.8	53.0	.2	472	-	.2	14.2	.2	-	1.3	84.1	.4	18.4	4.4	59.3	1.3
Environmental Design	46.0	51.8	2.2	276	1.1	-	2.9	12.0	-	7.6	76.4	1.3	19.6	3.3	44.1	7.0
Ethnic Studies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Professional Schools	(39.8)	(59.8)	(.4)	(241)	(.8)	-	(.4)	-	-	(11.6)	(87.1)	(5.0)	(20.7)	(11.2)	(49.4)	(.8)
Bus. Ad.*	41.7	57.7	.6	175	1.1	-	.6	-	-	12.0	86.3	3.4	26.3	9.7	46.7	3.1
Crim.**	49.2	54.8	-	31	-	-	-	-	-	12.9	87.1	-	3.2	22.6	61.3	-
For Cons***	60.0	40.0	-	5	-	-	-	-	-	-	100.0	-	20.0	-	80.0	-
Optom****	20.0	80.0	-	30	-	-	-	-	-	10.0	90.0	20.0	6.7	10.0	53.3	-

* Business Administration

** Criminology

*** Forestry & Conservation

**** Optometry

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continued

APPENDIX E - DETAIL - continued

FALL 1968

Students by Major Field of Study	(1) Per Cent by Course Level			(2) Number of F/TE Enrollment	(3) Per Cent by Departments of Instruction Arranged by Subject Area											
	Lower	Upper	Graduate		Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Letters & Science	(59.1)	(40.7)	(.2)	(5,862)	(4.8)	(.9)	(1.1)	(1.1)	-	(1.5)	(89.4)	(6.5)	(25.1)	(10.8)	(48.7)	(6.4)
Biological Sciences	36.4	60.0	1.6	359	1.4	1.0	-	1.6	-	3.6	92.8	6.2	98.0	5.6	47.6	1.6
Humanities	46.9	53.0	.1	1,005	4.4	.3	.2	1.5	-	3.2	90.4	7.1	98.4	15.9	85.6	4.6
Physical Sciences	43.4	56.6	-	316	4.1	.6	1.6	.3	-	3.2	90.2	6.0	99.7	11.4	40.5	2.5
Social Sciences	43.4	56.4	.2	1,707	3.7	.5	.4	1.2	-	5.1	88.8	5.4	96.9	14.4	97.3	4.7
Other	78.5	21.5	-	2,384	6.2	1.4	.1	.8	-	2.4	89.2	7.2	22.4	18.4	90.9	6.1
TOTAL	57.2	42.6	.2	7,002	4.2	.8	1.3	1.4	-	3.7	88.5	5.9	24.6	14.1	38.8	5.7

Office of Institutional Research
University of California, Berkeley
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APPENDIX E - DETAIL

(Pass/Not Pass Students)

Total Pass/Not Pass Enrollments Created by Undergraduate Students Arranged by Their Major Field of Study

(1) Per Cent Distributions of Pass/Not Pass Enrollments by Divisional Course Levels

(2) Number of Pass/Not Pass Enrollments,

(3) Per Cent Distribution of Pass/Not Pass Enrollments in the Departments of Instruction at Berkeley Arranged by Subject Areas

FALL 1970

Students by Major Field of Study	(1) Per Cent by Course Level			(2) Number of P/NP Enrollment	(3) Per Cent by Departments of Instruction Arranged by Subject Area										
	Lower	Upper	Graduate		Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Agricultural Sciences	45.2	53.2	1.6	124	1.6	5.6	.8	-	4.8	16.9	70.2	21.0	10.1	10.9	21.0	4.0
Chemistry	67.3	32.7	-	107	.9	2.8	.9	.9	8.4	3.7	80.2	2.8	43.9	4.7	29.9	.9
Engineering	31.2	68.8	-	500	.4	.8	13.8	1.4	7.2	1.6	70.8	1.8	12.6	10.4	47.6	.4
Environmental Design	43.4	54.7	1.9	212	.5	-	9.0	17.9	1.9	8.5	60.3	1.9	20.2	14.6	20.8	2.9
Ethnic Studies	-	100.0	-	1	-	-	-	-	-	-	100.0	-	100.0	-	-	-
Professional Schools	20.4	79.4	1.2	241	.3	-	-	1.6	1.6	33.6	63.9	6.0	15.3	8.7	30.1	1.6
Business Administration	30.4	69.6	-	191	.5	-	-	.5	-	20.4	78.5	2.1	19.4	12.6	46.0	1.0
Criminology	7.3	90.9	1.8	55	-	-	-	-	3.6	52.7	41.8	1.8	14.5	1.8	29.6	1.8
Forestry & Conservation	27.3	63.6	9.1	11	-	-	-	9.1	-	-	90.9	9.1	9.1	18.2	48.4	18.2
Other	14.9	85.9	3.1	64	-	-	-	-	4.7	42.1	30.8	21.9	4.7	3.1	3.1	-

Office of Institutional Research
University of California, Berkeley
February, 1971

continued

APPENDIX E - DETAIL - continued

FALL 1970

Students by Major Field of Study	(1) Per Cent by Course Level			(2) Number of FTE Enrollment	(3) Per Cent by Departments of Instruction Arranged by Subject Area											
	Lower	Upper	Graduate		Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Letters & Science	(47.4)	(51.9)	(.5)	(5,602)	(.5)	(.8)	(.4)	(.9)	(1.9)	(13.7)	(79.8)	(6.6)	(50.5)	(8.5)	(30.9)	(1.3)
Professional Schools	39.0	60.3	1.7	348	2.3	1.3	.9	.4	4.8	7.6	87.9	21.6	25.3	5.5	44.7	1.7
Humanities	43.4	56.4	.1	697	.4	.1	-	1.6	1.4	1.9	50.5	3.9	47.2	2.2	39.1	1.1
Physical Sciences	50.5	43.5	4.0	377	.4	.4	2.9	-	1.9	9.4	85.0	5.6	10.4	18.2	35.8	.7
Social Sciences	52.3	47.3	.4	1,503	.6	.9	.3	1.6	3.2	10.2	74.4	5.1	39.5	7.7	43.9	.7
Other	60.2	37.5	.7	1,869	.3	1.0	.3	.5	5.6	11.2	81.1	7.9	32.5	8.8	39.7	1.1
TOTAL	45.5	54.0	.5	6,867	.5	.9	1.7	1.4	4.0	13.6	77.8	6.5	39.8	8.3	43.7	1.5

Office of Institutional Research
University of California, Berkeley
February, 1971

APPENDIX E - DETAIL

(Pass/Not Pass Students)

Total Pass/Not Pass Enrollments Created by Undergraduate Students Arranged by Their Major Field of Study

(1) Per Cent Distribution of Pass/Not Pass Enrollments by Divisional Course Levels

(2) Number of Pass/Not Pass Enrollments,

(3) Per Cent Distribution of Pass/Not Pass Enrollments in the Departments of Instruction at Berkeley Arranged by Subject Areas

FALL 1971

Students by Major Field of Study	(1) Per Cent by Course Level			(2) Number of P/NP Enrollment	(3) Per Cent by Departments of Instruction Arranged by Subject Area											
	Lower	Upper	Graduate		Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Agricultural Sciences	52.4	47.6	-	168	27.4	4.8	3.4	1.8	1.2	11.3	51.2	8.3	10.7	9.5	20.8	1.2
Chemistry	44.9	53.7	1.1	89	-	1.1	6.7	1.1	4.5	1.1	88.8	5.6	53.9	6.7	1.1	-
Engineering	30.3	66.4	1.4	431	-	-	10.7	1.9	3.9	6.3	78.2	3.8	16.9	9.5	48.1	.7
Environmental Design	54.8	45.2	-	146	-	.7	6.8	14.4	3.4	11.6	63.0	6.2	36.0	12.3	17.8	.7
Ethnic Studies	-	100.0	-	7	-	-	-	-	57.1	-	42.9	-	-	-	42.9	-
Professional Schools	(15.6)	(84.4)	-	(376)	(.3)	(.3)	-	-	(1.9)	(53.7)	(44.8)	(7.7)	(16.5)	(4.3)	(14.4)	(1.1)
Business Administration	35.0	65.0	-	140	-	-	-	-	3.6	77.0	76.4	5.0	38.4	10.7	22.9	3.4
Journalism	9.1	90.9	-	33	-	-	-	-	-	30.3	69.7	-	15.2	-	54.5	-
Forestry & Conservation	72.2	77.8	-	18	5.6	5.6	-	-	-	16.7	72.2	11.1	11.1	-	16.7	33.3
Optometry	2.2	97.8	-	184	-	-	-	-	-	86.4	13.6	10.9	1.1	1.1	.5	-

Office of Institutional Research
University of California, Berkeley
February, 197[illegible]

continued

APPENDIX E - DETAIL - continued

FALL 1971

Students by Major Field of Study	(1) Per Cent by Course Level			(2) Number of P/NP Enrollment	(3) Per Cent by Departments of Instruction Arranged by Subject Area											
	Lower	Upper	Graduate		Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Letters & Science	(42.4)	(57.0)	(.6)	(5,144)	(.6)	(1.0)	(.1)	(1.7)	(.6)	(15.2)	(78.9)	(1.7)	(36.2)	(8.6)	(46.7)	(1.8)
Col. of Chemistry	53.6	44.4	2.0	301	4.0	4.1	.7	.3	4.1	10.3	78.8	20.7	23.4	7.3	34.2	1.0
Environmental Design	28.7	71.3	-	715	.3	.3	-	1.4	1.2	13.3	83.5	3.6	51.8	3.6	21.8	1.3
Engineering	35.9	63.1	1.0	730	-	.4	.9	.4	3.4	17.9	81.2	1.4	31.5	23.7	22.4	.9
Social Sciences	69.0	30.9	.1	1,966	.5	.3	.1	.8	.9	92.6	74.7	3.5	30.3	7.7	52.1	1.1
Other	59.2	40.7	.2	2,386	.4	1.3	.5	.4	3.9	13.5	80.0	5.9	36.9	9.4	36.5	2.1
TOTAL	41.8	58.4	.6	6,360	1.2	.9	1.2	1.1	2.7	17.0	79.9	5.7	33.0	8.5	37.0	1.7

Office of Institutional Research
University of California, Berkeley
February, 1972

APPENDICES F AND G - SUMMARY

THREE TERM AVERAGES--FALL QUARTERS 1968, 1970, 1971

Per Cent Distributions of all Course Enrollments Created by Undergraduate Students Arranged by their Major Field of Study in the Departments of Instruction at Berkeley Arranged by Subject Areas

Undergraduate Students are Divided in those Students who Enrolled for One or More Pass/Not Pass Grade (P/NP Student) and those Students who Enrolled for No Pass/Not Pass Grade (non P/NP Student)

		DEPARTMENTS OF INSTRUCTION BY SUBJECT AREA											
Students by Major Field of Study	Type of Student	Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Agricultural Sciences	P/NP	10.7	7.8	.5	.6	.9	8.9	41.9	17.1	10.1	10.0	17.3	7.7
	Non-P/NP	19.7	10.7	.7	1.2	.9	6.5	41.2	16.1	11.7	14.7	14.4	4.0
Chemistry	P/NP	.3	41.9	3.0	.6	1.0	2.3	31.5	4.8	15.4	21.1	8.9	.9
	Non-P/NP	.2	48.1	6.0	.1	1.3	.2	24.0	5.0	10.3	18.8	6.6	.3
Engineering	P/NP	.1	3.5	48.9	.5	1.3	1.6	21.3	1.7	5.6	20.6	15.0	.3
	Non-P/NP	*	6.9	52.2	.3	.9	1.4	18.7	2.1	6.2	24.3	5.7	.3
Environmental Design	P/NP	.2	.4	6.2	49.4	1.1	4.7	19.0	2.3	14.8	8.1	12.6	1.2
	Non-P/NP	.2	.4	6.4	68.7	.9	1.3	17.3	1.7	11.6	7.6	4.8	1.8
Ethnic Studies	P/NP	-	-	-	-	@	-	@	-	@	-	@	-
	Non-P/NP	-	-	-	-	@	-	@	@	@	@	@	-
Professional Schools	P/NP	.5	.1	.3	.2	.7	82.1	12.2	2.4	2.0	2.6	10.1	1.8
	Non-P/NP	1.3	.6	.4	.2	.7	76.3	11.5	3.7	4.5	9.5	10.5	.3
Letters & Science	P/NP	1.2	3.6	.3	1.1	1.7	7.0	56.1	6.2	6.4	11.5	14.7	2.2
	Non-P/NP	1.3	5.0	.3	1.0	1.9	4.8	56.6	7.1	6.5	14.1	10.2	1.7
Biological Sciences	P/NP	.5	9.1	.2	.3	.9	3.4	30.3	42.5	10.0	8.4	14.1	1.1
	Non-P/NP	1.7	12.5	.2	.3	.7	.1	24.5	47.9	7.3	11.5	9.4	.4
Humanities	P/NP	.6	.3	*	2.9	.8	4.8	90.4	2.3	67.6	3.1	15.9	1.8
	Non-P/NP	.4	.5	.1	4.0	.8	8.1	90.0	1.4	76.7	2.1	11.5	1.4
Physical Sciences	P/NP	.6	2.9	1.6	.2	.8	1.8	90.1	3.8	15.9	56.6	13.1	.6
	Non-P/NP	.5	5.3	2.8	.3	.5	2.6	89.1	4.3	10.9	61.9	9.7	.3
Social Sciences	P/NP	.7	.5	.1	.9	1.3	10.5	86.0	2.7	18.3	5.1	58.3	1.6
	Non-P/NP	.5	1.1	.1	.6	1.8	6.8	80.1	2.9	13.4	4.5	67.4	.9
Other	P/NP	1.2	3.8	.3	.9	2.4	6.4	85.0	5.8	34.1	13.3	28.8	3.1
	Non-P/NP	.7	6.9	.4	.7	2.4	3.6	85.4	5.5	35.8	15.5	26.2	2.3
TOTAL	P/NP	2.4	3.3	4.6	2.6	@	8.8	77.9	5.9	27.7	13.1	30.0	2.2
	Non-P/NP	1.4	6.0	5.3	3.8	@	7.1	74.8	6.5	26.6	13.9	26.2	1.5

*less than .05%
@not applicable

Office of Institutional Research
University of California, Berkeley
February, 1973

APPENDIX F - DETAIL

(Pass/Not Pass Students)

All Course Enrollments Created by Those Undergraduate Students Who Were Enrolled for One or More Pass/Not Pass Grade*

Students Arranged by their Major Field of Study

(1) Per Cent Distributions of Course Enrollments by Divisional Course Levels

(2) Number of Course Enrollments

(3) Per Cent Distributions of Course Enrollments in the Departments of Instruction at Berkeley Arranged by Subject Area

FALL 1968

Pass/Not Pass Students by Major Field of Study	(1) Per Cent by Course Level			(2) Number of Enrollments	(3) PER CENT BY DEPARTMENTS OF INSTRUCTION ARRANGED BY SUBJECT AREA										
	Lower	Upper	Graduate		Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Agricultural Sciences	46.5	53.5	-	185	27.0	7.0	-	-	-	5.9	60.0	15.7	12.4	10.3	21.6	-
Chemistry	50.9	48.6	.5	428	.7	40.9	2.1	.2	-	1.2	54.9	2.1	14.8	25.7	12.9	.5
Engineering	43.4	56.9	.7	1,846	-	3.9	46.0	.2	-	1.0	48.8	1.2	6.4	24.6	16.2	.4
Environmental Design	34.3	51.7	14.0	1,032	.4	.1	7.6	47.0	-	8.1	41.9	1.8	15.5	6.8	15.4	2.9
Ethnic Studies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Professional Schools	(29.7)	(70.2)	(.1)	(856)	(.5)	-	(.4)	(.1)	-	(51.5)	(47.5)	(5.6)	(10.2)	(7.7)	(22.7)	(1.4)
Business Administration	25.1	74.7	.2	558	.5	-	.2	.2	-	48.9	50.2	3.0	13.6	7.6	24.2	1.8
Criminology	14.2	85.8	-	120	-	-	-	-	-	67.5	32.5	2.5	2.5	6.7	20.8	-
Forestry & Conservation	35.3	64.7	-	17	5.9	-	11.8	-	-	41.2	41.2	5.9	11.8	-	23.5	-
Optometry	5.0	95.0	-	121	-	-	-	-	-	48.8	51.2	20.7	1.7	10.7	17.4	.8
Letters & Science	(48.4)	(51.1)	(.4)	(19,760)	(2.2)	(2.6)	(.2)	(1.5)	-	(3.3)	(90.8)	(5.7)	(34.6)	(12.6)	(34.6)	(13.2)
Biological Sciences	35.0	63.6	1.4	866	4.2	9.1	-	.6	-	1.8	84.3	39.6	14.9	8.8	20.2	1.4
Humanities	30.6	69.1	.3	3,406	1.6	.3	.1	3.8	-	2.1	92.2	3.0	62.5	5.6	17.9	6.1
Physical Sciences	25.5	72.0	2.5	1,171	1.3	3.4	1.2	.1	-	1.5	92.5	4.1	15.9	56.4	14.9	1.2
Social Sciences	26.7	72.8	.5	5,612	1.6	.3	.2	.7	-	5.6	91.6	3.3	19.1	6.7	59.6	2.9
Other	73.9	26.1	-*-	8,705	2.8	2.7	.1	1.4	-	2.8	90.2	5.2	38.2	13.7	29.1	4.1
TOTAL	46.5	52.5	1.0	24,067	2.1	2.7	4.1	3.3	-	4.8	83.1	5.2	30.2	13.3	31.5	2.9

* Enrollments shown in this table, as contrasted to Appendix E, included all courses taken by those students called "Pass/Not Pass Students" in this study, i.e., courses taken on the option and courses not so taken.

-*- less than .06%

Office of Institutional Research
University of California, Berkeley
February, 1973

APPENDIX F - DETAIL

(Pass/Not Pass Students)

All Course Enrollments Created by Those Undergraduate Students Who Were Enrolled for One or More Pass/Not Pass Grade*

Students Arranged by their Major Field of Study

(1) Per Cent Distributions of Course Enrollments by Divisional Course Levels

(2) Number of Course Enrollments

(3) Per Cent Distributions of Course Enrollments in the Departments of Instruction at Berkeley Arranged by Subject Area

FALL 1970

Pass/Not Pass Students by Major Field of Study	(1) Per Cent by Course Level			(2) Number of Enrollments	(3) PER CENT BY DEPARTMENTS OF INSTRUCTION ARRANGED BY SUBJECT AREA										
	Lower	Upper	Graduate		Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Agricultural Sciences	50.9	48.6	.5	407	11.8	8.4	.5	.5	1.7	12.3	64.9	18.7	9.1	9.8	15.2	12.0
Chemistry	49.1	50.1	.8	393	.3	43.8	4.6	.8	2.3	1.5	46.8	5.3	14.8	17.6	8.7	.5
Engineering	34.1	65.4	.6	1,923	.1	3.4	50.4	.6	2.2	2.0	41.2	1.9	4.8	19.8	14.4	.2
Environmental Design	35.1	56.6	8.3	710	.1	.6	5.9	49.9	1.3	3.4	38.9	1.4	15.6	9.2	11.1	1.5
Ethnic Studies	33.3	66.7	-	3	-	-	-	-	33.3	-	66.7	-	33.3	-	33.3	-
Professional Schools	(10.3)	(89.0)	(.6)	(1,112)	(.4)	(.3)	(.2)	(.4)	(.9)	(61.0)	(36.9)	(5.6)	(7.3)	(6.1)	(17.1)	(.8)
Business Administration	15.3	84.7	-	621	.2	-	.3	.6	.8	55.2	40.8	1.6	10.1	7.2	23.4	.5
Criminology	3.3	94.5	2.2	181	-	-	-	-	1.1	68.5	30.4	.6	7.2	1.1	21.0	.6
Forestry & Conservation	16.7	81.0	2.4	42	7.1	7.1	-	2.4	-	47.6	35.7	2.4	2.4	7.1	11.9	11.9
Optometry	2.6	96.6	.7	268	-	-	-	-	1.1	71.3	27.6	18.7	1.5	6.7	.7	-
Letters & Science	(41.5)	(57.8)	(.7)	(17,707)	(.5)	(2.7)	(.4)	(1.1)	(2.8)	(8.2)	(84.4)	(6.1)	(31.3)	(10.9)	(34.6)	(1.4)
Biological Sciences	29.2	68.0	2.7	801	5.2	10.5	.4	.1	1.5	3.4	78.9	42.6	9.9	9.2	15.7	1.5
Humanities	21.6	77.9	.4	2,252	.1	.3	-	3.3	1.4	5.7	89.1	2.2	67.8	1.8	16.8	.6
Physical Sciences	21.6	74.4	4.1	909	.1	3.0	1.9	.3	.8	3.7	90.2	3.6	16.2	55.8	14.3	.3
Social Sciences	20.3	79.1	.7	4,793	.2	.6	.1	1.1	2.2	12.1	83.6	2.5	17.7	4.3	58.5	.7
Other	60.9	38.8	.3	8,952	.3	3.8	.4	.7	3.8	7.6	83.5	6.0	32.9	12.4	30.1	2.2
TOTAL	39.4	59.7	.9	22,255	.6	3.4	4.9	2.6	2.6	10.1	75.8	5.8	26.6	11.5	30.4	1.5

*Enrollments shown in this table, as contrasted to Appendix E, included all courses taken by those students called "Pass/Not Pass Students" in this study; i.e., courses taken on the option and courses not so taken.

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February, 1973

APPENDIX F - DETAIL

(Pass/Not Pass Students)

All Course Enrollments Created by Those Undergraduate Students Who Were Enrolled for One or More Pass/Not Pass Grade*

Students Arranged by their Major Field of Study

(1) Per Cent Distributions of Course Enrollments by Divisional Course Levels

(2) Number of Course Enrollments

(3) Per Cent Distributions of Course Enrollments in the Departments of Instruction at Berkeley Arranged by Subject Area

FALL 1971

Pass/Not Pass Students by Major Field of Study	(1) Per Cent by Course Level			(2) Number of Enrollments	(3) PER CENT BY DEPARTMENTS OF INSTRUCTION ARRANGED BY SUBJECT AREA										
	Lower	Upper	Graduate		Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Agricultural Sciences	54.7	45.0	.4	558	20.4	7.0	1.1	1.3	.9	8.6	60.8	16.8	8.8	10.0	15.2	9.9
Chemistry	54.0	44.0	2.0	300	-	41.0	3.0	.7	1.3	1.3	52.7	7.0	17.7	20.0	8.0	-
Engineering	32.9	65.8	1.3	1,585	.1	3.1	53.3	.8	1.1	1.8	39.8	2.0	5.7	17.4	14.4	.3
Environmental Design	44.1	55.1	.9	463	-	.4	5.0	51.2	1.9	4.5	36.9	3.5	13.2	8.4	10.8	1.1
Ethnic Studies	6.3	93.8	-	16	-	-	-	-	62.5	-	37.5	-	-	-	37.5	-
Professional Schools	(10.3)	(89.4)	(.3)	(1,011)	(.5)	(.1)	(.3)	(.2)	(1.1)	(64.7)	(33.1)	(8.1)	(6.5)	(8.9)	(8.6)	(1.0)
Business Administration	18.3	81.7	-	468	.4	-	.2	.2	1.7	55.5	41.9	2.8	12.2	13.5	12.7	.7
Criminology	5.2	94.8	-	97	-	-	-	1.0	2.1	66.0	30.9	-	5.2	1.0	24.7	-
Forestry & Conservation	17.2	77.6	5.2	58	5.2	1.7	3.4	-	1.7	58.6	29.3	3.4	3.4	3.4	6.9	12.1
Optometry	1.3	98.7	-	398	-	-	-	-	-	75.9	24.1	16.8	.8	6.3	.3	-
Letters & Science	(39.5)	(59.7)	(.8)	(15,560)	(.8)	(3.2)	(.3)	(.7)	(2.4)	(9.5)	(83.1)	(6.9)	(31.0)	(11.1)	(31.9)	(2.1)
Biological Sciences	25.0	72.6	2.4	1,021	7.1	8.8	.2	.1	1.3	5.1	77.4	45.2	11.5	7.1	12.4	1.2
Humanities	21.9	77.8	.3	2,094	.1	.4	-	1.6	1.1	5.6	91.2	1.8	72.5	1.9	13.1	1.8
Physical Sciences	22.2	70.9	6.9	724	.3	2.3	1.7	.1	1.7	6.2	87.7	3.7	15.7	57.6	10.2	.4
Social Sciences	16.9	82.4	.7	4,413	.3	.5	.1	.8	1.6	13.9	82.7	2.2	18.0	4.4	56.8	1.3
Other	61.9	37.9	.2	7,308	.4	5.0	.3	.5	3.4	8.9	81.5	6.3	31.2	13.7	27.2	3.0
TOTAL	38.2	61.0	.8	19,493	1.2	3.7	4.8	1.9	2.2	11.5	74.8	6.8	26.4	11.5	28.0	2.1

*Enrollments shown in this table, as contrasted to Appendix E, included all courses taken by those students called "Pass/Not Pass Students" in this study; i.e., courses taken on the option and courses not so taken.

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APPENDIX G - DETAIL

(Non-Pass/Not Pass Students)

A1. Course Enrollments Created by Those Undergraduate Students Who Were Not Enrolled for One or More Pass/Not Pass Grade*
Students Arranged by Their Major Field of Study
(1) Per Cent Distributions of Course Enrollments by Divisional Course Levels
(2) Number of Course Enrollments
(3) Per Cent Distributions of Course Enrollments in the Departments of Instruction at Berkeley Arranged by Subject Area

FALL 1968

Non Pass/Not Pass Students by Major Field of Study	(1) Per Cent by Course Level			(2) Number of Enrollments	(3) PER CENT BY DEPARTMENTS OF INSTRUCTION ARRANGED BY SUBJECT AREA										
	Lower	Upper	Graduate		Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Agricultural Sciences	55.1	44.7	.2	515	26.8	8.0	.8	.4	-	4.3	59.8	20.2	11.5	13.8	14.0	.4
Chemistry	54.8	44.4	1.0	976	.2	51.2	6.6	.1	-	1.4	40.5	3.6	8.7	23.9	3.3	-
Engineering	48.0	51.8	.2	3,891	-*-	6.8	51.8	-*-	-	1.0	38.4	1.6	6.2	24.6	9.7	.7
Environmental Design	35.3	46.7	17.9	1,889	.4	.2	9.3	57.5	-	1.4	61.2	1.7	15.0	7.8	5.8	.9
Ethnic Studies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Professional Schools	(16.8)	(83.3)	(.3)	(1,912)	(2.8)	(.7)	(.3)	(.1)	-	(90.2)	(96.9)	(11.4)	(6.5)	(8.5)	(10.2)	(1.2)
Business Administration	24.7	75.2	.1	921	.7	.1	.1	.1	-	59.6	89.4	1.7	11.2	10.6	15.6	.8
Criminology	11.4	88.6	-	255	.4	1.4	-	-	-	76.1	21.2	3.9	4.3	1.2	11.8	-
Forestry & Conservation	9.0	89.8	1.2	253	19.0	.8	1.6	.4	-	44.7	33.6	25.1	1.2	4.0	3.2	-
Optometry	4.0	96.0	-	503	-	.8	-	-	-	97.3	41.9	26.0	1.8	10.7	3.2	.2
Letters & Science	(37.1)	(62.4)	(.5)	(25,746)	(1.5)	(4.6)	(.2)	(1.8)	-	(2.5)	(89.4)	(6.7)	(38.0)	(12.9)	(30.5)	(1.2)
Biological Sciences	44.7	52.1	1.2	1,550	5.7	13.4	.1	.5	-	1.5	79.8	46.8	11.3	11.7	9.9	.1
Humanities	33.3	66.5	.5	9,581	.8	.3	.1	8.3	-	1.9	88.6	1.8	70.6	2.8	12.0	1.5
Physical Sciences	32.4	65.4	2.2	1,297	1.2	4.7	2.2	.1	-	1.5	90.4	4.9	15.2	59.0	10.9	.4
Social Sciences	25.6	73.7	.7	5,914	1.1	.8	-*-	.6	-	4.5	93.0	3.1	17.6	5.2	65.7	1.5
Other	82.1	17.8	.1	13,424	1.5	6.4	.2	1.0	-	1.9	89.0	5.2	43.7	14.7	24.2	1.2
TOTAL	52.7	46.3	1.4	33,949	1.8	5.7	5.5	4.6	-	5.5	76.9	6.4	31.0	13.7	24.8	1.0

* Enrollments shown in this table, as contrasted to Appendix E, included all courses taken by those students called "Non-Pass/Not Pass Students" in this study, i.e., courses taken on the option and courses not so taken.
-*- less than .06%

Office of Institutional Research
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February, 1973

APPENDIX G - DETAIL

(Non-Pass/Not Pass Students)

All Course Enrollments Created by those Undergraduate Students Who Were Not Enrolled for One or More Pass/Not Pass Grade*

Students Arranged by Their Major Field of Study

(1) Per Cent Distributions of Course Enrollments by Divisional Course Levels

(2) Number of Course Enrollments

(3) Per Cent Distributions of Course Enrollments in the Departments of Instruction at Berkeley Arranged by Subject Area

FALL 1970

Non Pass/Not Pass Students by Major Field of Study	(1) Per Cent by Course Level			(2) Number of Enrollments	(3) PER CENT BY DEPARTMENTS OF INSTRUCTION ARRANGED BY SUBJECT AREA										
	Lower	Upper	Graduate		Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Agricultural Sciences	62.3	36.8	.9	787	12.5	11.2	.5	1.9	1.5	8.5	64.9	13.7	11.6	1.5	14.6	1.5
Chemistry	55.6	43.3	1.1	930	.2	47.7	5.7	.1	.2	1.0	45.1	5.1	13.9	22.7	4.0	.4
Engineering	47.6	51.9	.5	3,065	-*-	6.0	50.1	.4	1.5	1.9	48.7	2.4	6.6	24.7	4.8	.4
Environmental Design	35.4	56.5	8.1	1,684	-	.6	4.1	65.7	1.3	1.2	27.1	.7	10.1	8.8	6.8	1.1
Ethnic Studies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Professional Schools	(11.5)	(87.7)	(.8)	(2,073)	(.8)	(.5)	(.5)	(.3)	(1.1)	(68.0)	(28.8)	(6.4)	(4.1)	(7.8)	(10.6)	(1.1)
Business Administration	16.4	83.7	-	1,003	-	.3	.7	.2	1.1	67.2	30.5	2.8	6.4	8.6	13.0	.4
Criminology	9.8	86.2	4.0	275	-	1.8	-	.7	2.9	64.4	30.2	2.5	4.7	7.3	20.7	-
Forestry & Conservation	11.7	86.2	2.1	282	5.7	-	1.1	.7	.4	69.9	20.1	5.0	1.8	4.3	4.6	6.7
Optometry	2.9	97.1	-	513	.2	.6	-	-	.6	70.6	28.1	17.0	.8	8.8	1.6	-
Letters & Science	(44.6)	(54.8)	(.7)	(28,526)	(.8)	(4.6)	(.4)	(.8)	(3.1)	(4.5)	(85.8)	(6.5)	(31.2)	(12.3)	(38.5)	(1.4)
Biological Sciences	27.0	71.0	2.0	1,715	8.5	12.9	.2	.2	1.2	2.1	74.9	47.7	5.2	10.7	10.9	.6
Humanities	21.4	77.7	.9	3,514	.2	.4	.1	2.8	1.0	2.2	93.1	1.3	77.4	2.8	11.9	.3
Physical Sciences	25.1	71.9	3.0	1,246	.3	5.0	2.1	.6	.4	3.5	87.9	4.5	11.0	62.0	10.3	.2
Social Sciences	16.6	82.5	.9	6,740	.2	.8	.1	.6	3.2	7.3	87.8	2.3	11.8	4.1	69.2	.4
Other	65.7	34.1	.2	15,305	.3	6.2	.5	.5	3.9	4.2	84.4	5.1	33.7	14.4	29.0	2.3
TOTAL	43.2	55.8	1.0	37,059	.9	5.5	5.0	3.7	2.6	7.7	74.6	6.0	25.8	13.1	38.3	1.4

*Enrollments shown in this table, as contrasted to Appendix E, included all courses taken by those students called "Non-Pass/Not Pass Students" in this study; i.e., courses taken on the option and courses not so taken.

-*- less than .06%

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APPENDIX G - DETAIL

(Non-Pass/Not Pass Students)

All Course Enrollments Created by Those Undergraduate Students Who Were Not Enrolled for One or More Pass/Not Pass Grade*
Students Arranged by Their Major Field of Study
(1) Per Cent Distributions of Course Enrollments by Divisional Course Levels
(2) Number of Course Enrollments
(3) Per Cent Distributions of Course Enrollments in the Departments of Instruction at Berkeley Arranged by Subject Area

FALL 1971

Non-Pass/Not Pass Students by Major Field of Study	(1) Per Cent by Course Level			(2) Number of Enrollments	(3) PER CENT BY DEPARTMENTS OF INSTRUCTION ARRANGED BY SUBJECT AREA										
	Lower	Upper	Graduate		Agricultural Sciences	Chemistry	Engineering	Environmental Design	Ethnic Studies	Professional Schools	Letters & Science	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Other
Agricultural Sciences	41.1	58.6	.4	1,084	18.9	23.0	.8	1.4	1.1	6.8	40.0	14.1	10.4	16.7	14.6	4.0
Chemistry	52.1	47.2	.7	906	.2	45.3	6.2	-	.4	1.4	46.6	6.4	13.4	20.7	4.4	.7
Engineering	50.5	49.2	.3	4,179	.1	8.0	50.8	.1	.5	1.4	48.9	2.5	5.7	34.7	5.4	.3
Environmental Design	42.5	57.5	2.0	1,352	.2	.4	5.5	68.0	1.3	1.4	23.4	1.1	9.6	6.4	4.7	1.4
Ethnic Studies	10.0	90.0	-	20	5.0	-	-	-	60.0	-	35.0	10.0	5.0	5.0	15.0	-
Professional Schools	(11.4)	(88.1)	(.4)	(1,827)	(.4)	(.5)	(.5)	(.1)	(1.0)	(68.6)	(39.0)	(5.1)	(2.8)	(12.9)	(6.8)	(1.1)
Business Administration	17.7	82.3	-	907	.2	.3	.3	-	1.8	61.3	36.3	2.0	4.2	10.3	10.4	.3
Chiropractic	5.8	94.2	.4	252	-	.8	-	-	1.6	81.0	16.7	1.2	4.0	2.8	8.7	.4
Forestry & Conservation	10.5	89.2	2.7	220	3.2	.9	2.3	-	.9	75.5	18.2	1.8	1.4	1.8	1.8	7.7
Nursing	7.7	97.1	.3	433	-	.5	-	.2	-	73.4	25.9	16.2	-	9.0	.7	-
Letters & Science	(47.4)	(52.2)	(.4)	(15,280)	(1.2)	(5.9)	(.4)	(.5)	(2.5)	(5.1)	(84.6)	(8.0)	(28.5)	(14.1)	(33.7)	(2.4)
Biological Sciences	38.7	60.6	1.8	1,816	9.0	12.1	.4	.1	.9	2.6	74.8	49.1	5.1	12.2	7.6	.8
Humanities	23.1	76.3	.6	2,855	.1	.7	-*-	.8	1.3	2.1	94.9	1.2	79.3	1.4	10.6	2.5
Physical Sciences	29.2	70.0	2.8	1,049	.1	5.2	1.8	.2	.9	2.9	88.9	3.5	12.4	61.6	8.0	.4
Social Sciences	17.1	82.1	.8	5,088	.3	1.6	.1	.6	2.1	8.7	86.5	3.2	10.8	4.2	67.4	.9
Other	70.6	29.2	.2	13,394	.4	8.0	.5	.5	4.2	4.7	82.6	6.1	30.1	17.4	26.5	3.4
TOTAL	46.3	53.1	.6	33,569	1.4	6.9	5.5	3.2	2.1	8.0	72.9	7.2	23.1	15.0	25.5	2.1

* Enrollments shown in this table, as contrasted to Appendix E, included all courses taken by those students called "Non-Pass/Not Pass Students" in this study; i.e., courses taken on the option and courses not so taken.

-*- less than .05%

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APPENDIX H

Number and Per Cent Distribution of all Undergraduate Students at Berkeley Who Were Enrolled in One or More Courses for a Pass/Not Pass Grade by Their Cumulative Grade-Point Average Fall Quarters 1970 and 1971

FALL 1970

Grade-Point Averages	All Undergraduates	Undergraduates Enrolled in Courses for Pass/Not Pass Grades	Per Cent
0 - .49	107	37	34.6
.50 - .99	85	10	11.8
1.00 - 1.49	271	68	25.1
1.50 - 1.99	863	170	19.7
2.00 - 2.49	3,555	972	27.3
2.50 - 2.99	5,717	2,044	35.7
3.00 - 3.49	5,274	2,188	41.5
3.50 - 4.00	2,123	901	42.4
TOTAL	17,995	6,390	35.5

FALL 1971

Grade-Point Averages	All Undergraduates	Undergraduates Enrolled in Courses for Pass/Not Pass Grades	Per Cent
0 - .49	15	1	6.7
.50 - .99	29	2	6.9
1.00 - 1.49	128	20	15.6
1.50 - 1.99	640	112	17.5
2.00 - 2.49	2,913	767	26.3
2.50 - 2.99	5,087	1,780	35.0
3.00 - 3.49	4,989	1,987	39.8
3.50 - 4.00	2,026	827	40.8
TOTAL	15,828	5,496	34.7

APPENDIX I

FACULTY COMMENTS

SPRING SURVEY 1970

Generally Favorable Comments for Pass/Not Pass Grading

My experience with the P/NP option in two years of a lower-division course has been generally very good. Some students have said frankly that they tend to "do less work" in their P/NP course when a mid-term comes in another course, or they get behind in course-work generally. But others have said the opposite. And all agree there is no simple pattern of reaction to the P/NP option; it varies with the subject-matter of the course, how interested the student is in it, how well they think it is being taught, what the specific reading is that must be done, etc. ... In general, my impression from these two years' experience is that a far better climate of interest and free discussion is encouraged in the classroom by a de-emphasis on quantitative grade-ratings and a collaboration between teachers and students in trying to find interest and relevance in the course-work. That experience is drawn, I might add, from a course in which some very tough theoretical readings are done, and original field-work is required of each student. It is, however, important that the grading changes be seen in the context of other things about the students' relations with their teachers. For example, if qualitative comments are made on papers, and students get the idea that the teacher's concern is more with their learning than with ranking them against some unambiguous standard of excellence, it seems to make the most difference. The greatest likelihood of a student's "loafing" in a P/NP course, from my observation and discussions with students, comes in students who are cynical and mechanical about their whole relation to the "system" refusing or being unable to take their courses seriously as more than a series of arbitrary hurdles they have to jump. Whatever tends to

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continued

FACULTY COMMENTS

overcome that cynicism and emotional distance from ideas and technical skills seems to me most likely to help students work at their education.

I am very strongly in favor of the P/NP system; yet I know I would have wanted to have nothing to do with it when I was an undergraduate. I was a good student, did not suffer from working under tension, and wanted the quality of my work recognized. But I did see many competent, even brilliant, fellow-students "blow up" on examinations or fail to ask questions in class for fear of showing their "ignorance." I have taught many such tense, grade-oriented students, and I think that for them the P/NP system could be a real blessing, if they could get away from the worry about what a P/NP is going to do to their G.P.A.--I should also like to point out how much the presence of one or more P/NP students improves class atmosphere and teacher performance. The P/NP student is usually not afraid to ask questions, which benefits both the other students (who may not have understood either) and the teacher (who will work on making the problem easier for her next class).--To increase student interest in taking P/NP courses, some way of disconnecting P/NP from the overall GPA should be invented, so that it would truly be an intellectual adventure.

Students do not appear to work less or show less tension. Rather, their efforts and tension seem to be directed not toward meeting the instructor's requirements for a course grade but rather to the substance of the course. In the process, there is a good deal more student criticism of the course content, including that of presentation, etc., which puts much more strain on the instructor. From a course designed and controlled by the instructor, the P/NP course becomes one with much student involvement and pressure to meet what the students believe is "relevant." The instructor must change his presentation in many ways while still attempting to cover the structure or substance of his course. It becomes a truly difficult challenge.

continued

APPENDIX I - continued

FACULTY COMMENTS

With only one or two exceptions, my P/NP students have entered fearing low grades in a strange subject, but because they are freer and more confident in their approach to their class work, they tend to get much higher grades than they expected. They appear to work more steadily, and to exhibit spurts of enthusiasm, than students in the equivalent letter grades, who sometimes go into depressive slumps or are unable to finish the course because of anxiety about the final. ... The P/NP system appears to be very successful, as far as the students I have seen. There has been only one possible case of abuse of the P/NP system among my former students. All the suspected cases of plagiarism, etc., have been among letter-graded students--usually ones with abnormal pressure on them for a certain grade (which they might well have received without resorting to these methods.)

Success of the P/NP system depends strongly on the individual student. Often P/NP option merely shifts the criterion of a "snap" course from those offering easy grades to those offering light work loads. However, the advantages of the P/NP system restated in the cover letter are quite appealling and it is my opinion the program should continue under careful observation and study.

Perhaps the most valuable effect of the P/NP system is that it makes the teacher less of a judge over his students. This makes the relationship more unambiguously a supportive relationship--there is less latent hostility on both sides & I think this makes the mutual exploration of problems more stimulating for everyone.

It is my personal opinion that the student--regardless of his GPA--should be allowed to elect P/NP evaluation more generally than in the past. But I also feel very strongly that we may cheat him if we do not very substantially improve the advising. I consider the scheme which places advising responsibility substantially in the hands of students to be

continued

FACULTY COMMENTS

a retrogressive action. Students are entitled to advice from their elders about an educational program. They are also entitled to ignore it, but they are too important to be allowed to pursue a fragmented and goal-less educational program simply because we would rather be about our research than to consult with them.

In my courses, examinations and assigned papers are not susceptible of averaging--they test different qualities. I believe my course is not complete (and therefore not deserving of a P/NP or any other regular grade) until all exercises have been performed. Within that restriction, my experience with P/NP grading has been more than favorable. Indeed, I have been more conscious of the "P" students who should have been given an "A" than of those who just squeaked by.

This instructor was an undergraduate in Sociology from 1966 to 1968 and utilized the P/NP option to enroll in courses outside of his discipline. This enabled this instructor, while a student, to broaden his perspective by being able to enroll in courses that he would not have normally taken. In general, this instructor feels that the P/NP system should be retained, perhaps, with some minor positive modifications. In these times of tremendous pressure for "relevant" academic rigor and the presence of a seemingly obsolescent educational institution, there must be some positive "give & take", and the P/NP system is a small step in the correct direction.

P/NP is especially good, in my opinion, for studies in which a maximum of individual [thought] and a minimum of formulaic or factual material is involved. ... The most marked difference in my experience is in the greater honesty on both sides. One need not fear expressing unpopular opinions or debating the validity of those presented by the instructor. The possibilities of, and drives toward getting by on "politics" or charm are minimized. ... The student is left in the (uncomfortable but) adult position of having to give to get and having to stand by his own positions.

continued

FACULTY COMMENTS

Seems desirable for providing students with opportunity to take courses they would avoid if graded. ...Should be used for all students only in courses in which motivation is either highly intrusive or where other extrinsic forces prevail--as in student teaching courses in Dept. of Education.

Generally Favorable Comments for Standard Letter Grading

At first, the P/NP system seemed desirable, but from what I hear from students and faculty members, I suspect it is abused by lazy students and penalizes conscientious students. Unless there is some over-riding reason for P/NP, I favor grades, which permit a better combination of reward, fairness and mercy.

The average student in four years must come in contact with 25-40 instructors. No one letter grade is particularly significant, but cumulatively they have value & can be used to advise the sutdent (if he seeks advice, of course) as to his future.

I have had virtually no comments from students on the system, and find it difficult to evaluate how well it is accomplishing its objectives. ... I have not made any distinction in treatment of P/NP students from the rest, but my grade sheets show they have been either at the top or the bottom of classes, rarely between. ... As a method of reporting the relative quality of a student's work, I find the method unsatisfactory.

I favor strong competition between students--as long as all students, not just the best, get something out of the competition. My personal predilection is for more, not less, discrimination in the grading system--i.e., more different grade levels, not fewer. (Such as, for example, a system of number grades from 50--barely passing--up through 100--superior.)

Self-motivation in students is generated by personality interactions between the student and the professor, and is almost completely independent of the grading system. ... Ditto concerning creativity. ... The basis for any serious

continued

FACULTY COMMENTS

intellectual attainment lies in the development of technique. Initially the discipline required to develop technique must be imposed on the student: there must be a grading system. If you're an optimist you may consider it a reward for good performance; if you're a pessimist you may consider it a penalty for bad performance.

An illusory answer to an illusory problem. I don't mind moderately extending the system--if a few believe it helps them, it will help them. We cannot operate a competitive campus on a P/NP basis. Most of the students want to compete. For their protection they need the objectivity of a grade system, not the subjectivity of an evaluative record.

I do not favor extending the system. I do not favor courses without grading. I believe the system is best for non-majors trying out other areas. I believe majors should be graded. There is no avoidance of the fact the graduate school is selective, hence grades are useful to help select those the most qualified.

I feel that upper division students should be allowed to take a limited number of courses (4-5) outside of their major on a P/NP basis. I have been at Berkeley for 21 years, and have always felt that getting a C or C- here was very easy in 90 per cent of our courses. Getting less is equivalent to a finding of functional illiteracy (except on a one-time accidental basis). I have expressed this opinion to students in class and out for years and have never had it challenged. ... The advocacy of widespread use of P/NP, I regard as a form of romantic idiocy at best and at worst, as evidence that the person is a member of a conspiracy of losers to ensure that there are no winners.

The P/NP option does totally dissimilar things in the cases of the academically excellent students versus those that are average or below average. In the first instance it achieves its main purpose: To encourage a student to take courses that he thinks might interest him but which are totally remote from his existing field of competence. In the

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FACULTY COMMENTS

case of the average to poor student it appears to be nothing but a miserable crutch for squeaking through breadth requirements. It is my opinion that, for undergraduates, we should return to the pre-1966 regulations. ... I believe that the option should be open to grad students BUT ONLY FOR COURSES NOT DIRECTLY (the determination to be made by the Grad Advisor) RELATED TO THE RESEARCH FIELD. ... On rare occasions, giving a course P/NP may be of the greatest use. A few years ago I came up with a graduate seminar project which simply did not lend itself to grade assignment, and with which I proceeded only because I was allowed to offer it P/NP. It was thoroughly enjoyed by both the students and myself -- we all put a prodigious amount of effort in it and all learned a lot. ... As to [extending] P/NP; despite the recent reaction of the Santa Cruz faculty, speaking as the parent of a Santa Cruz student, I consider the system there an unmitigated disaster. My offspring, while coming through the freshman year with "P" grades, simply refused to return, the reaction being one of general lack of purpose and stimulation. It is my impression that a normal grading system would have yielded very different results.

A key question is, "How much does a student get out of a P/NP course compared to a letter-grade course?" Because of the tendency to let P/NP courses slide when there are pressures from letter-grade courses, I strongly suspect that he gets much less (on the average) out of a P/NP course.

The general reaction of the P/NP students in my course (which is a basic breadth requirement course) can be summarized "I don't have to work or do that because I'm only taking it P/NP." When one of them receives a NP the reaction is always "How could you fail me, didn't you know I was taking the course P/NP?" In my course with minor exceptions the students taking it P/NP do as little work as absolutely necessary and are put out when any more is required of them.

In theory the P/NP system is fine. In practice I have found it to be educationally unsound. Academic standards tend to decline. Here in Berkeley, the system has not

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FACULTY COMMENTS

encourged the scientist to take courses in the humanities, nor the student in humanities to flex his mental muscles in the sciences. It has tended to become a device for avoiding serious work in the designated course. In many cases, the system has not decreased grade-consciousness--has, indeed, been used all too frequently to help maintain or increase one's grade point average.

I have found that the better P/NP do regularly B+ to A- work--and at least one of these petitions after each quarter the course has been given to change to a letter-grade. About half the P/NP students take a "gentleman's C"--work minimally, put little into the course, & get little out of it. They're along for the ride, & that is fine with me. ... As far as I can determine, the "great reform" has had no measurable impact either on my course, or indeed on the students in it (either P/NP or letter-grade students). Like so much of the highly-touted Muscatine Reforms, P/NP has at best made a ripple, no waves, and is entirely a "matter indifferent." It probably is not worth the expense of administering it.

The idea of permitting students to take a certain number of courses on a pass/fail basis is fine. But to allow this grading method to take the place of normal evaluation methods is unacceptable.

I generally teach seniors [in an upper division physical science course]. Often I am requested to write letters of recommendation for them. In spite of my pleading with the students to visit me during my office hours, few do so. My letter of recommendation is practically meaningless without some quantitative statement about the students mastery of the course material under these circumstances. Having served on our department's graduate Admissions Committee, and Fellowship Committee and having had to read approximately 500 letters of recommendation per academic year, I assure you that what strikes the eye are statements like..."Mr. X was next to the best student in a class of 40 students..." For this reason I have tried to rank the students. How you would do this in a non-science course I don't know. In my view it is healthy for the student to know where he stands and to plan his future accordingly.

continued

APPENDIX I - continued

FACULTY COMMENTS

During the period 1965-69 while the Pass/Not Pass option was being tried here, I had a daughter at Santa Cruz which operated (in theory, at least) entirely on the Pass/Not Pass basis. I observed the results closely at both schools, and found striking differences: 1) At Santa Cruz, many and probably most students worked as hard for Pass grades as they did for letter grades at Berkeley. At Berkeley, I do not think that they did, and many planned in advance to "just get by". 2) At Santa Cruz, and probably at every school using Pass/Not Pass systems, grades or evaluations or some kind of equivalents are actually kept either by the Registrar, the Departments, or by individual professors. These are used to write recommendations for graduate schools, among other things. In effect, grades are kept but just not communicated to the students. The students come to know this, and arrange in straightforward or devious ways to see the evaluations or otherwise to learn their contents. Some professors make their evaluations available either generally or to the students evaluated, whether or not this is approved by the faculty generally. 3) Because evaluations of some kind must be recorded for future use, I think a grading system, with all its faults, is preferable to informal alternatives. Mainly this is because the alternatives are not easily controlled or compared. For example, some are rather off-hand statements like "Did average work in my course." I feel certain that the burden of writing textual evaluations will eventually force Santa Cruz, like other schools, into something approaching a grading system; this may or may not include transmission of grades to students. 4) I recommend normal enrollment for letter grades for all students in all classes at Berkeley, with advance arrangements for the exclusion of optional electives from the "Grade-point Average in Major Program" figure facilitated.

One girl took my course in general [agriculture course] P/NP. Later she regreted not taking a grade since she did very well on the mid-term. However, as the term drew to a close her grades in our course fell sharply and she finished with a letter grade of C. She clearly had to give most of her efforts to the letter graded course. Graduates: A faculty-student re-examination of seminars led us to offer

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one on P/NP. It was an excellent means to promote discussion & controversy but the coverage of material was less thorough. Next quarter we again offered the P/NP seminar with a reduced enrollment and increased auditors. This quarter we had all auditors and no student enrolled. The students came to listen & discuss with no "strings" attached. I believe this is a valuable kind of teaching situation, but must be alternated with graded seminars in which the student's ability is strained and stretched to greater achievements.

Prefer to See Changes in The Grading Systems

There is no question in my mind as to the desirability of the P/NP system: it is rather a matter of extending it to the point where it actually does begin to bring about some of the conditions which in theory it is aiming for. As long as it remains such a tangential, de-emphasized part of the educational program here, I am sure that it will remain not only ineffective but self-defeating: students will use it to create more time for those courses in which they are dominated by the threat or promise of a letter-grade; what other result could one possibly expect? I am all for a general P/NP grading system, and yet I realize what a quixotic dream this is. As a result, I remain profoundly pessimistic about the possibilities and future of the UCB P/NP system, but as one who is very much of the P/NP philosophy. One very practical result of this survey: I hadn't been aware that profs could teach a course entirely on a P/NP basis: I intend to look into this immediately.

I believe many/some students perform better when courses are distinctly structured--including the rewards for achievement--i.e., lettered grades. Others are capable of "expanding" without "outside" motivation(contrived motivation) and these students should not be penalized beyond the minimum needed to make "grade achievement" workable for those needing it. Students should have options--during what I hope will be a transition from a predominately "artificial" motivating system to one more attuned to rapidly changing directions and values in our society.

continued

FACULTY COMMENTS

The aims of the P/NP system are certainly desirable, but until the system is utilized more widely in breadth requirements and non-major-related electives, the aims cannot be met. Probably the majority of graduate courses (surely seminars, etc.) could be P/NP and would encourage independent work on a non-competitive basis.

I feel that the goal of P/NP is good, i.e., to permit more flexibility and less-grade-consciousness. But I feel too that it encourages indifference & carelessness in some students at the same time that it encourages others to be more creative and less cautious. And it seems only fair to be able to distinguish those who really excel and work hard, so I am very much in favor of the NP/Pass/Honor system.

The P/NP system is basically a reasonable idea, and in general, it does permit students to obtain breadth of interest in areas in which they might not delve if all courses had to be taken for a grade. It appears to encourage exploration into courses that otherwise might be shunned. The system is apparently quite beneficial to some. ... It appears to me, however, that the greatest number of students use the system as a means by which they can do what used to be termed "gentlemanly C" work without the penalty of getting a C grade and having that grade counted in their grade point average. This may not be unreasonable, but the instructor is left seeing a number of students struggling to simply get by with as little effort as possible and with as little attention as possible. In courses in which a certain amount of give and take between students and instructor is encouraged, students with the "struggling to get by" attitude function essentially as a drag anchor. A large proportion of students with this attitude in a class can have a real damper effect on the conduct of the class and as a result, serious students who relish the give and take as a part of their educational experience suffer. Perhaps an answer to this problem is to permit the instructor to indicate if specific courses may be taken on a P/NP basis and thus permit some courses, or at least certain courses at any given time, not to be open to P/NP grading.

continued

FACULTY COMMENTS

In the Winter Quarter of 1968 I made an analysis of the grades on the final examination for [a lower division humanities course]; there were nearly 300 students, roughly one third P/NP. The examination was graded as objectively as humanly possible (each TA reading one essay question through all the bluebooks) and the questions were designed to test accumulated understanding of the material, not straight memory (although some reasonable familiarity with names and dates was necessary). The curve for the P/NP students had essentially the same shape as that for the others, but its bulges were exactly half a grade lower. Almost all the failures in the course were P/NP. ... My personal view is to favor very strongly the adoption of a scale: Honors, Pass, Fail. (I don't really mind Not Pass, but I think Fail sounds more honest; I think I would insulate it from the Grade Point System just as Not Pass is at present.) This scale would have the important effect of recognizing superior performance by a student taking a course far outside his major -- and certainly there are a significant number of students who now do very good work while taking a course P/NP, though I find it rare that they do better than B plus. It would also offer some inducement to such a student to carry through and do superior work, particularly when the pressure builds up in his graded courses. ... Despite the recognition of superior work which this scale would allow it would not lead to grade-grubbing to maintain a GPA, since its results could not be computed mathematically, but only interpreted qualitatively.

I feel that the P/NP system would have considerable advantage if it were used as a means of preventing students from being penalized for taking difficult courses instead of easy ones. The GPA does not reflect the difficulty of the courses. However, the option is used as a supplement to avoiding hard courses, not an alternative. If specific courses were designated as open to the P/NP option for particular curricula, the system might work. Thus a biology major might be allowed to take some additional mathematics or languages beyond the basic courses on this basis.

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FACULTY COMMENTS

I have seen the effect of P/NP from the viewpoint of a parent as well as a faculty member. I noticed that they signed up for courses on a P/NP basis when they had doubts about their depth of interest. However, in many cases they became interested in the course but did not get maximum benefit from it because they were putting most of their efforts into their other courses. It is my belief that all courses should be on the same basis except for such things as P.E., music performance, etc. Teaching certain experimental courses on a P/NP basis could be desirable but I do not approve the system for the typical course unless we go all the way as Santa Cruz has done.

In mathematics in general, students must keep up with the homework or they get hopelessly lost. Students taking math on a pass-fail basis stop doing the work when the going gets tough in the other courses, thereby essentially dropping the P/NP course. Perhaps the best thing would be to allow students to drop a course at any time without penalty or drop grades entirely. But let's face it, as long as there are jobs and graduate schools to apply to, there will be some insidious method of student comparison. Perhaps grades are less troublesome than other ways, but it really bothers me that so much emphasis is placed on the "GPA."

I should like to see all course grades abolished, and students examined (in part orally) on major and minor (or distribution) fields annually or, better still, at two-year intervals (i.e., when entering the upper division, & when graduating).

I would prefer to use the notation "Satisfactory/ Unsatisfactory", thus making a C- the lowest "passing" score. I don't like to see prerequisite courses for the major given on a "pass/not pass" basis because there is no way of evaluating the student's level of preparation (though we face this all the time in the case of transfer students). By and large, the P/NP system seems to do what is claimed for it but to a much smaller extent than is claimed for it.

continued

FACULTY COMMENTS

From the professor's perspective, P/NP courses are advantageous in blunting the grading/evaluation function. This is inappropriate, I think, when advanced students are being taught--where evaluation means more than grading, where systematic attention to specific student skills is needed by the student. ... I am sure, in my own mind, that P/NP encourages some students in intellectual/scholarly "laziness", but this is a moral judgment and, cynically, the graded courses do not shut out such students either; P/NP may merely (attract) concentrate them some, but so do Mickey-Mouse-graded courses.

I feel very strongly that all courses should be on a "pass-not pass-honors pass" basis. Any student should have the option of receiving a letter grade in any class; he should be free to choose or reject this option near the end of the quarter, and he should have the right to a candid estimate of his letter grade for the elapsed portion of his course before making his choice.

I teach in a graduate school with very few undergraduates enrolled in my courses. In general, particularly since the advent of the quarter system and the tendency to give all A's or B's anyhow, [I doubt] that grading in individual courses serves much useful purpose. I'd like to see larger segments of achievement assessed in a functional way - e.g., performance in research, scholarly activity, professional internships, etc.

In every case that I have met, either in class or as an advisor, the P/NP option was used solely to avoid some regulation, requirement, or the like. ... It is my opinion that a class should be either graded all P/NP or no P/NP. In general a course graded P/NP should provide substantially fewer units, than one graded no P/NP. ... Can there be any real doubt that P/NP leads to a lower academic standard? ... Doesn't the solution reside in better courses, better organized and better taught?

continued

APPENDIX I - continued

FACULTY COMMENTS

Berkeley's experience thus far with P/NP is not significant. Even the results of this questionnaire will tell us little about the potential uses and/or dangers of a thoroughgoing P/NP system. Professors intrusted, as I am, in an expansion of P/NP would be very interested in a report of some institution's full trial of the system.

APPENDIX J

STUDENT COMMENTS

WINTER SURVEY 1971

Note--Comments are arranged into eight generally different sentiments. Individual remarks may cover more than one of these sentiments.

1) The Pass/Not Pass option is good and should be extended.

2) Students should be free to enroll in each course for either a Pass/Not Pass grade or a standard letter grade.

3) The Pass/Not Pass option permits students to abuse the system.

4) The faculty should provide more oral and written evaluations.

5) The faculty dislike Pass/Not Pass grading and evaluate those who use the option accordingly.

6) The present educational system stresses grades and grades are preferred over Pass/Not Pass option.

7) Standard letter grades are needed for motivating student performance.

8) Standard letter grades are harmful and should be replaced by something better.

Office of Institutional Research
University of California, Berkeley
February, 1973

continued

STUDENT COMMENTS

1. Pass/Not Pass is Good--Extend it

I think that P/NP is definitely needed at Berkeley but in order for it to work, P/NP must be started at least in junior high and preferably elementary school.

P/NP is fantastic because it eliminates the superficiality of the grading system & allows a student to exercise personal initiative & explore new avenues & approaches to solving classroom problems & assignments. He doesn't have to sweat getting a grade--therefore feels a sense of freedom to break from the rigidity of traditional teaching techniques. I realize this is very general--it is just my personal feeling towards P/NP.

I think all courses should be P/NP. Competition is a sad thing which should be done away with. Grades cause a pressure unknown in P/NP courses.

Feel it [P/NP] should be expanded--Without the majority of P/NP courses I have taken, I would consider my time at Cal spent in hoop-jumping & non-productive attempts at learning & 'being learned'. The least amount of superficial evaluation there is in the learning process (& the earlier the learning process ceases to evaluate) the more will be learned at least, the more I would have learned.

I, as an Engineering Major, have not had much chance to take courses P/NP because the majority of my undergraduate courses are required. I only wish I could have taken some of my courses P/NP because I don't think I will use them that much or they are courses repeated from High School.

I feel P/NP is an excellent system and should be expanded. Many times I know I have done better in P/NP class than a grade class since the pressure was off. You can enjoy something without always working for that 'almighty grade'!

I have personally found that I am equally motivated in P/NP classes if not more motivated by my pure enjoyment of the subject matter & freedom of stifling grade pressures.

continued

STUDENT COMMENTS

Pass-Not Pass should definitely be continued. I took classes pass-not pass which I would not have taken otherwise, since I knew little of the subject and was afraid of hurting my G.P.A. I always enjoyed the classes, and still worked hard in them, but pressure was relieved. The present system which allows you to take 1/3 of your units pass-not pass is great.

P/NP grading is like an oasis in the midst of a desert--they're enjoyable and conducive to experimentation in unfamiliar areas, but they're no panacea--just making a course P/NP has no affect on subject content or manner of teaching--basic educational procedures such as large lecture classes and papers graded anonymously and exams are still the norm.

I think P/NP grading is O.K. because it allows me to carry more units. I don't attack the courses any differently than graded classes--would usually have an A in P/NP classes. It just removes the extra worry. P/NP can be abused if the student isn't interested in learning, but anyone who is really here for an education would have the same attitude in both P/NP & graded classes.

It's frustrating to get better grades in your pass/not pass classes than in your regular classes. Any solution to this? At any rate, I appreciate the option and have explored many courses that normally would have been left alone.

Pass/Not Pass grading can either help you to a high GPA, enable you to slide by, or genuinely enable you to investigate some of your curiosities. I think it should be carefully explained to incoming freshmen as I was completely confused as to exactly how much freedom it meant. It's a bit harsh on those undergraduates who haven't yet decided their major but who are looking around. I believe that on the whole it is a fine thing as it does help different majors explore without worry. For some majors this is no small thing.

continued

STUDENT COMMENTS

2. Free to choose Pass/Not Pass or Letter Grade

I do not believe that Pass/Not Pass courses should be discontinued nor made mandatory; rather the system should continue to provide an option for the student. I also believe there should be no limit of courses that could be taken P/NP. This allows the student as much freedom as possible, which I feel is helpful in creating a better learning situation at Cal-Berkeley.

The option, as it now exists, is great. I need a certain amount of grade motivation, but the amount of experimentation P/NP allows, and tensions it relives, makes intellectual activity far more interesting. Note - the longer I have been away from my previous High School experience & environment, the less I have relied on grade motivation & have learned to develop interests on my own. P/NP option is great! (But I don't feel P/NP w/no option should be imposed on everyone)

I am going to school for an education--not to play games with grading systems. Whatever way makes it easiest for my friends and I to learn is what I am for. I feel that different people respond differently to grades and therefore feel that the option should be left open at least, and, I really encourage the expansion of the option to include more courses.

Students should be allowed to take all courses in fields outside their major or related majors P/NP, i.e., engineers should be allowed to take all non-science courses P/NP whether or not that means one or two courses for any one quarter. ... Unavoidably, a student has to be rated in some way within his own field, (there has to be some criterion for accepting students to Grad School, jobs, etc.) If a student could take all his courses P/NP, then the ranking of students would be based entirely on Professors' recommendations, which would put a heavy burden on the professors and also eliminate a student's choice of whether or not to get involved with the professor teaching a certain class (assuming that the student wanted a good rating). Allowing students to take P/NP outside their field is an excellent idea. An engineering student can take English without the constant fear of 'will I get a D in the class'.

continued

STUDENT COMMENTS

People should be free to choose the way they wish to take a course, unless the whole system was switched one way or the other, including the whole college or university system nationwide.

I feel that the P/NP option should be extended to all classes but that no class should be given as P/NP only. This lets the student decide what his education is for and how he wants it evaluated by others. Grades indicate one thing only--that is how well the student has learned to make grades, not what he knows.

3. Pass/Not Pass is "Easy Way Out" for student

Pass/Not Pass grading will either be a boon for lazy people or be a way for students to motivate themselves without the artificial 'grading' motivation.

It's not a question of 'feeling guilty', I simply feel that P/NP courses are a cop-out.

I know why I take P/NP courses, but resent people who do it all the time to aid grades, etc. Not quite fair to those who need to take them--also not exactly asked--the reason I like grades is that I am more apt to do well than badly, so it is more valuable for long range goals to carry the grade. If you get an A in a P/NP courses, it's a waste.

Obviously, some students will take advantage of P/NP--but personally, I work hard without even thinking of the grade I'll get--I just want to learn in the classes I take. Grades are a stupid way to judge one's intelligence or potential.

I believe it to be a valuable relief for someone taking a greatly burdening load, but I don't feel I 'put out' as great an effort--it's more of a 'get by' situation.

Some students are very clever at increasing their GPA through the use of P/NP courses--i.e., guessing correctly which courses they will not do well in. Although this eventually catches up with them, it is not really fair to those who are not so clever with the system.

continued

STUDENT COMMENTS

4. Need Feedback from Faculty

P/NP should be used in all courses. Grades are a hinderance to learning. In the end, you get what you put into a course. Teacher evaluations in oral or written comments mean more than a grade.

I do not like P/NP as it now exists because if I must get a C to pass there is no sense taking the class P/NP--I can get a B with only a little more effort. I liked P/NP much more when one could do D work and still pass. I also do not feel that P/NP is as effective as an evaluation by the prof would be.

I feel the entire grading system should be changed to P/NP providing that a teacher evaluation for the purpose of succeeding within the establishment (i.e., graduate school and job recommendations).

The system has not been developed enough; it would be much more effective if instructor's comments were included along with grade of P/NP. Also, instructors should not be aware of students using P/NP option--I believe it influences their grading technique--negatively.

I would like to see more extensive written or oral evaluation of students by teachers within a totally pass-not pass-honors system. I do not believe this would have any negative effect on my chances of getting into grad school; in fact it would probably have many positive affects on that, and the general goals of my life.

Both grading systems might be junked in favor of written evaluations from the instructor or TA similar to the Santa Cruz system. The content of such a report would certainly be more valuable than either of the present report forms, and it might prompt instructors to look more carefully at student work.

I enjoy P/NP system but to introduce it on a full scale basis you have to have an integrated interdepartmental seminar system rather than the present lecture set up. In a seminar a student gets feedback from prof & other students, motivation &

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interest which goes far beyond & is much healthier than grades but I still think that P/NP is good in lectures but evaluation & motivation suffer, but not to an important degree. This weakness is compensated by reduction of tension, opportunity to pursue areas of interest in which you are not competent. Generally P/NP is great and should be expanded.

I usually take courses P/NP to get easy credits and allow more time to do what I want to do. I can not lower my GPA, or I lose my scholarship. Written evaluations say more to student & grad school, but in lecture classes who knows who?

5. Faculty Dislike Users of Pass/Not Pass

I haven't pursued many courses on a Pass/Not Pass basis because it seems professors feel you are taking a course for a sure Pass or an easy way out of working for a grade.

[Professor _____] hates people who take his class P/NP.

I think P/NP should be eliminated from the grading at Berkeley. Many instructors will give students a NP if they don't get a 'C' but will give an individual a 'C' grade if they didn't earn it because they took the course for a grade.

In my opinion it is the instructor who is less interested when a large number of students are taking his course P/NP. Serious students have difficulty getting the detailed info they sometimes need, i.e., natl science series & classes designed for non-majors.

I feel the value of P/NP courses is being reduced by the attitude of faculty. To get into grad school grades are most important. Teachers assume that if you take a class P/NP you are not really 'trying' in that course. (Really foolish, because in the P/NP classes (3) I've taken I've gotten an A, an A- and a B+.) P/NP encourages me to take classes for which my background is weak--i.e., Geology. I'm going to need a 3.5 to a 3.7 GPA to enter grad school here, yet faculty frowns on P/NP. Sadly, because of this, I have restricted my P/NP classes--thus limiting the scope of my education and sticking to the generally 'safe' classes for which I already have a good background. The

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STUDENTS COMMENTS

P/NP system is presently defeating itself--the students & faculty cannot agree on its value.

For P/NP to be successful at UCB the stigma of copping-out must be removed from the person signing up for such a course. Most instructors are considerate and fair in their attitudes towards P/NP students, but, most students have a feeling (or knowledge) that P/NP courses are considered as a C grade in transcripts. the P/NP system needs support both of students and the institutions. The true value and meaning of the P/NP system is found in the possibility for students to study a given area in freedom and motivated by curiosity or intellectual interest. For an educational institution and society this means an improvement over its competitive system which in reality produces few people with the above qualities and many who have mastered the techniques of grades (a technique that is cheating) and set out on their careers in a self effacing and utterly selfish attitude. These just mentioned may garner a few laurels for the university but they will seldom break out of their rigidly formed habits of competing for grades (promotions, raises, public offices, praise, etc., etc.) because they have never experienced any other self-fulfilling technique for continued intellectual growth. They will only grow intellectually under the pressure of the competitive game (and it is a game) because they lack any idea of how to grow from inner motivation.

6. Present System Stresses Grades and Grades are Preferred

I've taken P/NP for my own interest in subjects & to spend less time in course. It never fails though that its my most interesting class so I spend most time on it--so I no longer take P/NP.

The P/NP system cannot be seen for its' true worth until it can be removed from the over-shadowing influence of grades and the need for grades to survive in this system. A 'P' just doesn't have the social power of the 'A'.

Although grades are not the most desired way of evaluating a guy's worth, they are more accurate than P/NP.

continued

STUDENT COMMENTS

I don't find that the courses at UC are demanding to the extent that it is necessary to have the option of taking one-third of one's classes on a P/NP basis in order to spend more time on other classes, etc. My experience with individuals who have exercised this option is that the extra time is generally not even redirected to creative extra-curricular activities, let alone other classes.

As long as grades tend to be arbitrary and grad schools nevertheless attach important meaning to them--grading will be a ludicrous system of evaluation. Pass/Not Pass will only be an effective solution when grad schools stop stressing grades.

It seems that there are three major reasons for taking a course P/NP. The most common is probably to undertake less work so that a high grade can be obtained in the graded course. Another reason is to reduce the study time for a course which is only a matter of interest. The third reason a student takes a course P/NP is because the student expects a low grade and doesn't want it to affect his G.P.A. In brief, the P/NP course does not actually provide relief from the GPA monster. Certainly a minimum amount of work has to be done anyway. Why worry about achieving the minimum if you intend to pass the course? If you want to shift study time by taking a P/NP course, then forget it and change your course schedule. If you anticipate a low grade, you may get it anyway (a NP). If you are presently a B or A student you probably do not anticipate a low grade.

Pass/NP classes offer no appeal now in my upper division work. My major interests me and grades are the easiest way for my professors to give a fair evaluation of my work when they have no time for written comments.

There are so many more important things to talk about concerning grading and teaching at Berkeley. Ultimately, it is the course and the prof. The method of arriving at an evaluation is important, and the incentive for a prof to arrive at an accurate assessment is reduced by NP/P grading. I am opposed to P/NP grading. Maybe ABCF grading instead.

continued

STUDENT COMMENTS

The competiveness of getting into med school has hindered my ability to take p/np courses. If it were not for this I would take as many p/np courses as possible. They tend to humanize education by allowing one to have more say in how one's own education is to progress.

Being concerned about G.N.P. for law school, P/NP allows me to take upper-division courses in which I'm interested but not as good in, i.e., Art, etc., with art majors without penalizing my G.N.P. because of my interests. However, I see grades as a necessity under our present system.

7. Standard Letter Grades Motivate

After completing this [questionnaire], I have realized the depressing fact that grades do provide a type of motivation to me and that P/NP is usually a way of avoiding a C or even a B. I do feel, as I am in college longer, that I am working more for knowledge and not for grades, however, grades provide the initial push into the material.

It seems to me that it takes a little pressure (a grading course) for me to learn; really dig deep into something. Or else I would just waste time. I guess it is human nature. However, despite the work under pressure, I usually feel good after the work is finished, and I appreciate the knowledge I obtained afterwards, (knowledge which I probably won't get otherwise).

In spite of everything I've been told, I feel that grades are an incentive, and I feel that many people would do no work if there were no grades hanging over their heads.

I have never taken P/NP, except to fulfill science requirements which I hated. Grades were meaningless as a freshman & sophomore--large classes & no indication of progress or weaknesses except the letter grade. During my junior & senior years I have elected as many small seminars as possible. Professors have critically evaluated my work & I have, in every class, gotten a B+. I feel that grading in seminars is fairer, where the student is working with a teacher, & can watch his improvement over the quarter--grades do, in this case, give satisfaction. Needless to say, I really learned nothing during my first

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two years & I would have learned less if I had not been graded. At least I made an attempt to learn the material, but I never understood my weak points.

With P/NP I take classes in which I'm interested but otherwise wouldn't want to compete for grades. I do less work in these classes, but usually enjoy them. P/NP should be continued at a restricted level, since most people at the college level are dependent on grades for motivation.

The basic problem is that, to get into Berkeley, kids have already been trained for years in a grading system. P/NP is good, but takes a lot of personal reevaluation of goals and the establishment of a new degree of self-motivation.

8. Do Away With Grades

Questionnaires are lousy ways of evaluating people's ideas, but I suppose with so many people there's not much else you can do. I hated this thing but I'm hoping it might help to bring about some action to abolish grades. Everyone I've talked to, even the grinds & the grade freaks, don't like grades but work for them because the 'system' puts value on them. Don't you think it would make more sense to put value on something that had more meaning than a little letter that is arbitrarily handed out?

Grading is superficial; students will learn & retain what they want and should be allowed to explore without grades. A letter evaluation from the teacher would also give the students a better relationship with the instructors.

Grading is so alienating, and does so much to destroy students, that it must be done away with totally, if the university is to be of any humane value.

Grades are not fair or accurate devices for measuring student interest or competence; they have the added defect of stifling personal growth.

continued

STUDENT COMMENTS

I strongly believe that all the courses in the undergraduate years should be pass/not pass. If the student is in Berkeley he has to have some smarts in the first place. As it is now, most medical students can not even enjoy their pre-medical work at Berkeley due to the tremendous pressures to achieve the best grades possible. Grades don't do anything except provide one way to make the admissions officers have an easier time of it at graduate schools.

I think I'm personally so hooked to the grading system that I'm most anxious when I take a course P/NP--I try to get by with as little work as possible so I constantly worry about the thing. I've never thought grades here were very competitive at all, at least in the liberal arts,--if you didn't get an A, you got a B, but I know science majors are super competitive. Grades are such a waste of energy. They make learning & developing interests virtually impossible. Abolish grades!

Grades have no meaning to anyone. They do not indicate how much was learned, intelligence, or creativity. But more important to me, they ruin my experience at school. Without them I would be excited about learning. With them I am nervous and unhappy about it.

In my experiences at UCB, I have seen students pass out from tension during finals! Why? The almighty grade! This to me is sick, but very characteristic of good ol' U.S.A. Let's strive toward Pass/not pass & honors for a more humane educational system.

If I win, you lose--we both can't make it in a system of grading on a curve--and the professor is the enemy--obviously. He and the system pits us against each other. Ask any good student if he really dares help others in his classes to learn. It would [be] self-destruction. Questionnaires like this one are encouraging. Possibly the results of this study may help to change the emphasis of education to one of enthusiastic creative scholarship, rather than reliance on the skills of schoolmanship for progression from one arbitrary step to the next.

continued

APPENDIX J - continued

STUDENT COMMENTS

When school is used for stratification of society rather than for the dissimination of information it does a disservice to all. Anything that will reverse this trend is beneficial!

I am a clear advocate of total elimination of grades at Berkeley. I feel by doing this we would create an atmosphere more conducive to learning.

Convert the entire grading system to Honor/Pass/Not Pass and maybe it will force professors to do a better job of teaching and make both students and teachers more responsive, communicative and less tense or hassled about tests, papers, projects and grades. It could put some learning and fun back into education and remove some of the oppressiveness and dryness.

I would like to see all grades replaced by some sort of personal evaluation by the professor of the students work. My experiences in this kind of situation at Berkeley have been the most valuable and exciting. This, of course, would require a very low student-teacher ratio and more emphasis on independent work. Both of which I would like to see instituted.

I think the idea of all courses being graded on a Pass, not pass, & honors system should be more seriously considered. The amount of anxiety I have been through because of grades has made my four years of college the singlemost horrid experience of my entire life. The paternal attitude of my professors as they handed out grades like dog biscuits to good puppies has been a truly nauseous experience. The greatest blessing anyone could ever bestow upon this university would be to abolish the grading system as it now stands. I hope this questionnaire reflects my attitude strongly enough.

Ultimately grades should be removed altogether. A major-advisor evaluation would be the most accurate system of completed learning.

It seems that grades are given arbitrarily. I cannot see how an instructor can say that a person who made 107 pts. gets an A-, and a person who made 105 pts. gets a B+. The second person knows he did well, but the companies that look at his GPA see it as a B, indicating average college work. Also, in our

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STUDENT COMMENTS

grading system, the whole grade depends on one final or one paper. If one happens to be in a bad state of mind during finals week, he will instantly lower his grade. A T.A. said in a class, "it's not how much you know, it's how well you do on the final." Granted, grades do have their purpose. It's hard to see which students are qualified to go to grad school & which aren't, with only P/NP marks (besides, I don't think there would be that many NP marks). ... In trying to tie all I've said together, let me say this: grades, like money, is a necessary evil at present. We need some evaluation. However, there must be some way to lower its importance. I made grades in high school, & when I came here, I thought I didn't have to any more. I found I was wrong. Right now I'm more worried about grades than learning. I've learned something since I've been here, but if I blow a final or even a mid-term, the company, where I apply for a job, won't care how much I know. I wish I could say more, but I have a feeling that I'm incoherent. Let it suffice to say I wish we could do away with grades, but unfortunately, I have no alternate solution.

A system similar to that used at Santa Cruz should be enacted, with all courses P/NP. As it stands, the present system actually relieves very little pressure; the student simply takes his least favorite classes P/NP and then competes as usual in his others. This is self-defeating and not much better than no P/NP option at all.